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*The*  
**Connecticut  
Pomological  
Society**

**1910**

*Proceedings of the  
Nineteenth Annual Meeting*



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CHARLES L. GOLD, WEST CORNWALL,  
President of The Connecticut Pomological Society, 1908-1909.



REPORT  
OF  
The Connecticut  
Pomological Society  
For the Year 1909  
WITH  
PROCEEDINGS OF THE NINETEENTH  
ANNUAL MEETING,  
1910



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CHAPEL

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OF THE  
**Connecticut Pomological Society**  
FOR 1910

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C. L. GOLD, West Cornwall.

*Membership.*

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HENRY H. LYMAN, Middlefield.

A. T. HENRY, Wallingford.

*Injurious Insects.*

DR. W. E. BRITTON, New Haven.

PROF. C. D. JARVIS, Storrs.

F. A. BARTLETT, Stamford.

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JOHN R. BARNES, Yalesville.

GEO. W. SMITH, Hartford.

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*Fungous Diseases.*

DR. G. P. CLINTON, New Haven.

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M. L. COLEMAN, Seymour.

*Markets and Transportation.*

J. NORRIS BARNES, Yalesville.

CHAS. E. LYMAN, Middlefield.

A. N. FARNHAM, Westville.

*Publicity.*

E. D. CURTIS, Bantam.

STANCLIFF HALE, So. Glastonbury.

C. L. GOLD, West Cornwall.

*Auditors.*

GEO. W. STAPLES, Hartford.

ANDREW KINGSBURY, Rockville.





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# Constitution and By-Laws of the Society.

## THE CONSTITUTION.

ARTICLE I—The name of this association shall be THE CONNECTICUT POMOLOGICAL SOCIETY.

ARTICLE II—Its object shall be the advancement of the science and art of pomology, and the mutual improvement and business advantage of its members.

ARTICLE III—Any person may become a member of this Society by paying into the treasury the sum of one dollar, and the membership shall cease at the end of the current year.

Any person may become a life member of this Society by the payment of the sum of ten dollars at one time. All moneys from life memberships to form a permanent investment fund of the Society.

ARTICLE IV—Its officers shall consist of a President, First Vice-President, one Vice-President from each county in the State, a Secretary and a Treasurer, to be elected annually by ballot, to hold office for one year, or until their successors are duly elected.

The President, First Vice-President, Secretary and Treasurer shall constitute the Executive Committee of the Society.

ARTICLE V—The Society shall hold its annual meeting during the month of February, the time and place to be decided by the Executive Committee, at which time the annual election of officers shall be held, various reports submitted and an exhibition and discussion of fruits take place; also other necessary business be transacted. Other meetings for special purposes may be arranged for and called by the Executive Committee whenever it is deemed advisable. Printed notice of each meeting to be sent to every member of this Society.

ARTICLE VI—The following Standing Committees of three members each, on the following subjects, shall be appointed by the President, to hold during his term of office; the appointments to be announced at the annual meeting of the society.

*Business and Legislation,  
Injurious Insects,  
Exhibitions,  
Membership,  
Fungous Diseases,*

*New Fruits,  
Markets and Transportation,  
Publicity,  
Two Auditors.*

ARTICLE VII—This Constitution may be amended by a vote of two-thirds of the members present at any annual meeting.

## BY-LAWS.

ARTICLE I—The President, Secretary, Treasurer and the Chairman of each standing committee shall each present a report at the annual meeting of the Society.

ARTICLE II—The President shall appoint annually two members to audit the accounts of the Secretary and Treasurer.

ARTICLE III—The Treasurer shall pay out no money except on the written order of the President, countersigned by the Secretary.

ARTICLE IV—All members whose memberships have not been renewed before the end of the current year shall be notified of the fact previous to the removal of their names from the roll.

ARTICLE V—It shall be the duty of the Executive Committee to arrange the programs for the meetings of the Society, to fill all vacancies which may occur in its officers between the annual meetings, and to have general management of the affairs of the Society.

ARTICLE VI—It shall be the duty of the County Vice-Presidents to actively represent the Society in its various lines of work in their respective counties, to arrange for at least one meeting of the Society in their county during the year, and to report to the Society from time to time the progress of the fruit growing industry in their respective sections of the State.

ARTICLE VII—The Committee on Legislation shall inform themselves in regard to such laws as relate to the horticultural interests of the State, and bring the same to the attention of the Society, and also the need of further legislation. And when so directed by the Society, shall cause to be introduced into the General Assembly such bills as may be deemed necessary, and to aid or oppose any bills introduced by others, which directly or indirectly affect the interests of the fruit-grower.

ARTICLE VIII—The Committee on Membership, with the co-operation of the County Vice-Presidents, shall bring the work of the Society to the attention of the fruit-growers throughout the State, and, by such means as they deem best, strive to increase the membership.

ARTICLE IX—The Committee on Exhibitions shall suggest from time to time such methods and improvements as may seem to them desirable in the conduct of the exhibitions of the Society, as well as fruit exhibitions throughout the State; and with the assistance of the Executive Committee shall arrange the premium lists, and have charge of all Exhibitions given by this Society.

ARTICLE X—It shall be the duty of the Committee on Insects and Diseases to investigate in regard to the ravages of these enemies of fruit culture; and to suggest how best to combat them and prevent their spread; to answer all inquiries addressed to them by the members as far as possible, and, when necessary, promptly lay before the Society timely information on these subjects.

ARTICLE XI—The Committee on New Fruits shall investigate and collect such information in relation to newly-introduced varieties of fruits as is possible, and report the same to the Society, with suggestions as to the value of the varieties for general cultivation.

ARTICLE XII—The Committee on Markets and Transportation shall inform themselves as to the best method of placing fruit products upon the market, and bring to the attention of the members of the Society this and any other information concerning profitable marketing.

ARTICLE XIII—The Society will adopt the nomenclature of the American Pomological Society.

ARTICLE XIV—These By-Laws may be amended by a majority vote of the members present at any regular meeting.

THE



# CONNECTICUT POMOLOGICAL SOCIETY . .

## *Proceedings of the Nineteenth Annual Meeting 1910*

ACCORDING to its constitutional requirement and the arrangements made by the Executive Committee, the Connecticut Pomological Society convened for its Nineteenth Annual Meeting February 2 and 3, 1910, in the city of Hartford.

The opening session was called to order in Unity Hall at 10.45, Wednesday morning, February 2, by the President, Charles L. Gold, of West Cornwall.

There was a very large number of the members and visitors on hand for the opening session, and throughout the entire meeting the attendance was a record breaking one.

Previous to the meeting the stage had been splendidly decorated with palms and flowering plants, and the front was banked with packed boxes of magnificent apples of Connecticut and New England growing. A large pyramid and many baskets of choice fruit also added to the attractiveness of the stage setting.

THE PRESIDENT: Give your attention, ladies and gentlemen. The hour has arrived to call the meeting together. We have with us this morning His Honor Mayor Hooker



of Hartford, who will give us an address of welcome. You will now give your attention to him. I have the pleasure of introducing to you Mayor Hooker of Hartford.

MAYOR HOOKER: Mr. President and Ladies and Gentlemen: The city of Hartford certainly ought to be the best informed city in the country on all agricultural matters, on all religious matters, and on all educational matters, and, in fact, on almost every subject, for we have conventions meeting here from day to day, and people coming here, and if we listen to what is said there is no excuse for any man in Hartford not knowing a great deal on a great variety of subjects. It has been my privilege for the last year and a half to welcome many of these societies, and to nearly all of those meetings I came simply as a learner. I did not know a thing about their particular line of business. I am glad to attend to-day the meeting of a society where I can tell you all about the business in which you are engaged. Anybody who was born in the state of Connecticut knows all about apples, and knows of the large and important part they play in our state life. If we go back to the beginning of history, we find that original sin entered the world through the medium of the apple. I was taught in Sunday School, and perhaps at a later day, although I do not exactly believe it, that Eve ate the apple and then gave it to Adam, when he saw snakes. Now many people have taken apples in another form and have seen snakes. If we follow the history of the apple all the way down through the course of history, we will find a great many references to the apple. We have all heard of the golden apples of Hesperides, and what would mince pie be without apples? Who is there who does not remember Thanksgiving Day, when we get out to the old home in the country, and our grandmother, or mother, or aunt, bakes apple pie, or apple tarts, and apple dumplings, and all the various forms that apples are made into? And so on I might enumerate a great many

instances where apples have played a very important part in our existence. We can find apples in pies, we can find apples all through our lives. I well remember going to my dear old aunt's in the country, in a house where my grandfather was born, and what boy has really had a liberal education if he has not been given a straw and sent down into an old cob-webbed cellar to suck cider through the bung-hole of a barrel? Those are joys that come from apples, and we have experienced them, but you have not come here for that purpose. You have come here to learn how to raise better apples, and how to make money out of those apples. In the old days some rather had the notion that all anybody had to do was to set out the trees, and then sit down in the house and let the trees grow, and then the apples would grow, and then they would fall off on the ground and they would pick them up after they had fallen off because it was too much work to pick them off the trees; most of them were only fit for cider, but occasionally there would be a few that the man could get enough to pay for carting them to the city. That was of the days before you had a Pomological Society, and before people had got where they appreciated the fact that the trees were not to be depended upon to do all the work, but that the man himself had got to work and use intelligence in order to produce a crop that would be profitable. And you to-day will undoubtedly find out how it is that they raise this beautiful fruit that I see exhibited here on the stage before me.

There is one thing that I want to bring out particularly, and that is the waste that comes where the cost of distribution is so great that you have complaint on both sides. We hear talk of the great cost of living and the high cost of farm products, and then on the other side, we hear about the small prices that the farmer or the producer gets. What is the trouble? I think that one reason for that situation is because so much money and so much

energy is taken up with the distribution of the product. There is so much expense put out for commissions that even though the consumer pays a high price the producer receives a low price for his product. Of course, it is not all paid for commissions, but goes for other purposes as well, but all of those things increase the cost of distribution, and that is what I have particularly in mind. Now that situation is not applicable entirely to the raising of apples, but it is a question that is coming to the front in all of our industries, to get more men into the productive side of the industry, and to get less wasted time, money and effort on the distribution side. That simply costs money and adds nothing to the wealth of the country or the wealth of the world. That is one of the subjects that I believe you are going to study, and when you find out how to bring the product of the farm to the consumer with less expense, then we are going to have the consumer satisfied and the farmer well paid.

A short time ago I heard Mr. Hale make a great speech on the subject of apple-raising in New England. I heard it in New Haven, at the meeting of the State Board of Trade. Before hearing him make that speech I did not know anything about the subject. After hearing him I knew everything. He covered the whole ground, and he told us all about it, and I believe what he said was true. We have got the land and the soil here to do that kind of farming, and do it just as well as it can be done on any farm in other parts of the country, and I hope that the time will come soon when New England farms will be more fully developed with apple orchards, because we have a market near at hand, and we can cut out, to a great extent, that element of cost in transportation which is involved in bringing the production of the grower to the consumer. Now Mr. Hale recommends that all Connecticut farmers take a dose of ginger and go to work. In riding around the state of Connecticut, and going out through



the towns to the east and west, I must confess that I agree with Mr. Hale that we have got many places that look as if the owners had simply sat still for three or four generations and let nature wear out the buildings, the trees, and let everything go to ruin and fall to pieces. Now if they will all take a dose of Mr. Hale's ginger and get to work, and not leave it all to sunshine and to nature, I believe that we can produce crops of apples which will compare favorably with those raised elsewhere. All that seems to be necessary is to let the work be intelligently directed by our agricultural college and by our societies, and we will then have a product that cannot be beaten anywhere in the world, our people will be supplied at reasonable prices, and the men who do the work, who produce, will receive compensation for their labor, which will add to the wealth of the state of Connecticut, and to the happiness of all.

I thank you very much. (Applause).

President Gold then responded to the Mayor's address in a few well-chosen words.

PRESIDENT GOLD: Mayor Hooker: We have enjoyed your remarks, and appreciate them. I wish to call your attention to one very conservative point which the Mayor reserved, and that was you noticed that he very carefully refrained from offering us the keys of the city. However, I know that if he had offered us the keys he would have been safe. Also, I trust that he will not believe that we are all hot air, because if he will stay at our meetings, I am sure he will find out that we have some good things to offer in the course of the meetings to-day and to-morrow. I assure you, sir, that we are all much pleased to come here to this beautiful city. We know that we always receive a welcome, and that it is a good city to come to, and we hope that we shall not abuse your welcome.

I will not take your time by any further response to the address of the Mayor. I have a few words which I

suppose is expected of me as the President's address. I have written it out so that I might take less time in inflicting it upon you. I will not take your attention but a few moments.

## President's Address.

Ladies and Gentlemen, Members of the Connecticut Pomological Society and our Friends, Greeting:—

The clock still ticks, the hours and days slip by and another annual meeting of your Society is before us. The year has been a busy one, on the farm, in the orchard, as well as for the Society. Although much has been left undone that we had hoped to have done, yet we feel that some progress has been made. The road to success is never smooth sailing. To the horticulturist the pitfalls and apparent failures we continually meet are but signal lights showing us the road to victory, casting a ray of warning that each may learn from his neighbor where the ice is thin. The farmer of to-day who would succeed must not, does not, recognize defeat, but tramples under foot every untoward circumstance, thus helping him to reach the next step in the ladder of progress.

In the address of your president last year reference was made to the Conference of New England Governors, held in Boston in November, 1908. One outgrowth of this Conference, and the most prominent, and also the one we are more particularly interested in, was the New England Fruit Show, held in Boston, in October, 1909. Much credit is due Ex-Governor Woodruff, who inspired this Conference. The Fruit Show has been pronounced a success, affording opportunities of education and enlightenment not only to the farmers of New England, but to the consumers of New England and the public at large throughout the Union. Many inquiries have been made from all parts of the country in regard to locating in this state for orchard work.

There is thus presented to this Society an opportunity, unparalleled, which we should promptly grasp, of being of direct practical benefit to those unacquainted with the state, desiring to take up fruit growing in our midst. Your Publicity Committee, appointed at the last annual meeting, has done some excellent work, and two leaflets are offered you which it is proposed to give wide circulation throughout the entire country. Your Society made a large exhibit, in the interests of the state, at this New England Fruit Show, consisting of a car load of all kinds of Connecticut grown fruit available at that season of the year.

I am proud to say that Connecticut stood in the front rank, as ever, in quality, variety, character and tastefulness of display. I wish at this time to publicly acknowledge the free contribution of fruit and more especially of cash in considerable amounts, also cash and trophies for special premiums, all of which assisted your Society very materially to make a creditable exhibit. In addition to the state exhibit above referred to, there was a goodly number of individual displays which carried off a fair share of first premiums, competing with all New England.

Your Society has held a number of meetings in all parts of the state during the past year which have been well attended, thus showing a desire for knowledge and a broader view of life. It is necessary and important that all the agricultural interests in the state work in harmony. Whatever is of benefit to one is of benefit to all. United we stand, divided we fall. Let us remember that old fable of the bundle of sticks.

I wish again to emphasize the necessity of applying business methods to our work. There is no business of more varied interests, and requiring a wider range of knowledge than agriculture. It is an honored calling and once stood in the front rank before the public. If we would retain that position we must show the public that we are worthy of it. We must think and work and act along

broad and unselfish lines, taking an interest and lending a hand in public and social affairs of our town, our state and our nation.

PRESIDENT GOLD: The program at this time calls for brief remarks from representatives of our agricultural college and experiment stations in regard to what an agricultural college and experiment stations may do to promote fruit growing. I have the pleasure of introducing to you President Beach of the Connecticut Agricultural College.

PRESIDENT BEACH: Ladies and Gentlemen, and Members of the Pomological Society: The gentleman who is to finish the speech that I am to start is not in the audience at the present time, but I trust that he will be here in time to take up the discussion of the subject.

I picked up a newspaper this morning and read a short article in regard to the fruit industry, and particularly the apple industry in New England. I want to refer to just an extract from it. The future of the apple industry is now on a safer and surer foundation than ever before. The gradual decrease in the apple production in the United States during the last thirteen years furnishes a record of the declination of apple growing. Statistics from government reports show that the production of apples from 1895 up to 1908 has steadily been declining. The following are the figures for each year. I will give them in million barrels. In 1896, 69,000,000 barrels. The next year, 41,000,000 barrels. The next year, 28,000,000 barrels. The next year, 47,000,000 barrels. The next, 26,000,000. The next, 47,000,000. The next year, 23,000,000. The next 29,000,000. And last, 23,000,000 barrels. Last year we produced about one-third as many barrels of apples as was produced thirteen years ago. In the four years beginning with 1896 we produced an average of 43,000,000 barrels a year, but in the last three years you will see that it went down to something like 23,000,000 barrels, a decrease of a very large per-



tage. This great decline in apple growing, or the explanation for the decline may not be discussed here but to me it is significant. In my opinion, it is the man who renovates and particularly cares for his old orchards, and the man who plants new ones, that is going to win out by getting ahead, because he can see the situation as it really is. This explains in a few words, I think, the condition of our apple industry. We are not planting as many apple trees as formerly, and fruit growers are not keeping up their old orchards. Our population is increasing, and these figures which I have quoted show that the production of apples is actually declining, while the number of consumers is increasing. The population of the country has, of course, increased considerably during that period. It would seem, therefore, gentlemen, that in Connecticut and in this country, there was a splendid opportunity for fruit growing, and I think there is no better place in the whole country for going into that industry than right here in New England. We certainly are near some of the very best markets in the world. The Pomological Society is, of course, the organization to promote the fruit industry in this state. Quite recently it has made a request of the Agricultural Experiment Stations and the Agricultural College that they conduct some extension work, or rather some demonstration work in Connecticut with that end in view, and particularly along the line of the renovation of old orchards; to take orchards here and there, to handle them according to the best methods, and thus to show what could be done with them. Now this request, in the first place, came to the New Haven Experiment Station and to the Storrs Station, and to the Agricultural College. It was very soon found that there might be some conflict if we should all go into it together, and there might be a duplication of work, and so Dr. Jenkins and Professor Clinton had a conference, and I want to read the result of our deliberations:

"In compliance with the request of the Pomological Society for coöperation and help in promoting successful fruit growing in the state, with special reference to orchard interests, the Connecticut Agricultural College, and the Agricultural Stations offer the following suggestions. Aside from experimental work on matters which are not at present fully determined, a chief need is to spread what knowledge is now to be had on the best methods of renovating old orchards, on the shaping of trees in young orchards, on the proper management of spraying operations and other means of combatting orchard pests and unfavorable climatic conditions, as well as the tillage and fertilizing of fruit trees. To spread this knowledge there is needed throughout the state instruction in improved orchard methods, namely, educational, or demonstration work by field meetings, farm institutes and other means. We agreed that such educational work is distinctly the work of the Agricultural College rather than of the Stations, that its general management should be in the hands of the College rather than with either or both of the Stations, and that both the College and the Pomological Society, associated in its general management, should freely invite and receive the help of both Stations equally as the time, means and qualifications of members of the respective staffs of the two Stations may permit."

The idea is that this work is rather educational in character and should go to the institution whose purpose is to teach rather than to the institution whose purpose is to investigate.

"The work of the Stations, on the other hand, in field and laboratory, should be distinctively research work, leaving the general direction of the educational or demonstration work to the College and the various state agricultural organizations, as may be arranged between them."

It is recognized, however, that research work while in progress or when completed sometimes has great educational value as an exhibit apart from the published description of it. The Stations are not in any sense excluded from this educational feature, but should practice it when possible in coöperation with the College and the Pomological Society.

In this connection the President of the Agricultural College and the Director of the two Agricultural Stations wish it clearly understood that they wish and intend to work in this matter, and in all other matters, in entire harmony, and with the one purpose of advancing the agriculture of Connecticut most efficiently and economically without duplication or conflict of work. They invite all state agricultural organizations to immediate and serious effort towards closer relations, that the work may not be disjointed, unrelated or in any way antagonistic, but mutually helpful and more effective. Each society has a special work to do not touched by any other. That special work, we believe, can be so arranged as to be helpful to other organizations, and so to the whole agricultural interest. A general outline of a plan for demonstration and instruction work follows, and is a part of this report.

This report, if I may call it a report, is signed by Dr. E. H. Jenkins, Professor Clinton, and by the President of the College.

The idea was that this work of renovating the old orchards or doing demonstration work in pruning, spraying and thinning, was work which should properly be called teaching, and should be directed by the College rather than by the Experiment Station. Now the work which we have in mind has been outlined here, and I have only a short outline to read, so it will not trespass upon your time to any great extent. We submit this for the encouragement of fruit growing in Connecticut.

The recent New England Fruit Show in Boston has served one purpose at least. It has set people to asking questions about fruit growing. The man with the old unproductive orchard wants to know how to make it productive. The man with the young orchard is asking how the orchard should be cared for in order to bring it into early bearing condition, and how to develop strong, vigorous trees free from disease. Owners of land on which orchards have never been planted are considering the fruit proposition, and even city men are looking towards the country for investment of funds in lands which may be adapted to fruit growing. The Connecticut Agricultural College proposes to render assistance so far as its funds will permit to all of these classes.

### What is Proposed.

The plan of work as outlined, if successfully carried out, will result in establishing demonstration orchards in various localities of the state. These orchards will be so located that at least one will be easy of access to any one in the state interested. The work will be strictly coöperative in its nature, the College working with and advising the owner as to the best methods of procedure.

### Renovation of Old Orchards.

Many old orchards are unproductive because they have never been pruned or cultivated or fertilized or sprayed. While some of these orchards are so overgrown that they are good only for firewood, yet others may, by profitable management, be reclaimed and brought into profitable bearing. A few of these reclaimed orchards suitably located will serve as an object lesson, illustrating proper pruning and tillage, and modern methods of fruit growing. The orchards for this work will be selected with the utmost care, as it is desired to make them cen-

ters of interest in the community, where spraying and tillage implements may be tested, and where field meetings of the state Pomological Society may be held.

### Development of Young Orchards.

Early training is as important in the development of orchards as with men. The character of the mature tree depends very largely upon the treatment and care given the first years of growth. Owners of young orchards who may desire to coöperate in this work will be given expert advice as to proper methods of caring for young trees. A representative of the college will visit the orchards selected and make a personal study of their needs and recommend treatment which seems best suited in each case. At certain times public demonstrations will be held and lectures will be given on orchard management.

While the two lines of work mentioned will receive most attention, an effort will be made to help the man who has no orchard, but desires to establish one. He will be assisted in the selection of a suitable location, in choosing proper varieties, and quality of nursery stock, and advised as to the preparation of the land, and the setting of the trees. In no case will the College acquire any financial interest in the orchard under treatment. All of the expenses of the College representative will be borne by the College, and the expense of the actual work will be borne by the owner.

Now this, in a rough way, is the scheme for doing demonstration work, and for bringing the facilities of the College closer to the farm for the purpose of improving the fruit industry. Now we know that there are three institutions in this state which are interested in the department of agriculture, and each is distinct in its operations, and the work that goes in between these three institutions is and should be conducted harmoniously and there should be coöperation between them. The three



institutions which I have in mind are the experiment station, the college and the institute. The experiment station is the institution which was designed to investigate and work our problems which would be of interest and value to the farmers of the state, problems which the farmer could not work out for himself, and their work is distinctively that of investigation and experimentation. Now the work of the college is along the line of teaching,—teaching the young men who come to the institution in certain necessary lines of general education and special farm topics. Now we cannot reach a great many. The statistics of the country show that about one boy in five hundred goes to college, and I suppose that the number in Connecticut is not greater than that, so that our agricultural college possibly can reach one boy in five hundred,—one boy out of five hundred of those who are to be the future farmers, or the farmers of the next generation. So you can see that the college cannot do a great deal to improve the agricultural industry of the state. It is the third branch of the educational system which must do the most to forward scientific agriculture in the next few years. It is the work of the Dairy Association, the Pomological Society, and Board of Agriculture, and the Poultry Association. This work which we call demonstration work or extension work will take the results which have been worked out by the experiment station and endeavor to make them clear to the farmers of the state. These results should perhaps be boiled down by the college and put in as practical a form as possible, and so take those facts which have been ascertained and make them as generally known as possible. That is what the institution is for. These institutions or these societies that I have just mentioned have a very much larger audience, and reach a larger number of people than the college could possibly do. I believe that this work should receive more attention in this state,

and should receive a larger appropriation. I believe that more good can be done in the next few years by devoting more attention to those three branches of our agricultural and educational system. Now this extension work which I have outlined is a part of this educational work, and we at the college will be very glad of the opportunity to be of any help which we can possibly extend, not only to the fruit growers, but to the dairymen and the poultrymen of the state. We have outlined this plan which we think may be of considerable interest, and may be the means of teaching the farmers perhaps more effectively than could be done by mere lectures from the platform or at the institutes.

PRESIDENT GOLD: Professor Jarvis is with us from Storrs, and he will add a few words to what President Beach has had to say about this work.

PROF. C. D. JARVIS: Mr. President and Gentlemen: I do not think there is very much for me to say regarding this subject. There are three points that I believe all will agree on concerning the apple industry of Connecticut, and we might also add in New England. These are: First, owing to favorable soil and climatic conditions, and to exceptional market facilities, Connecticut is well adapted to commercial apple growing. Until very recently, we have completely failed to appreciate our possibilities in this line. It has recently been very forcibly brought to our attention, and fruit growers have been very much aroused by the fear of western competition. That is the second point. The third point which I had in mind was the cause for the failure of Connecticut and other eastern states to cope with western production is largely due to inferior or careless methods of orchard management, or growing, of packing and of marketing. Now we must admit that we have not been doing the square thing with our orchards in New England. Brother Hale might feel, if we should say that he did not know anything about

apple growing, or that Mr. Lyman did not know the best way to grow peaches, that he did not care very much what we said about him. But that is not the point. Both of those members of this Society get good results, because they take care of their trees. Mr. Lyman takes care of his peach orchards, and that is why he grows profitable peaches. Mr. Hale does the same thing. I was up to our worthy President's place not long ago, and I found some fine big orchards, one was about seventy years of age, apparently very well cared for by its former owner, and it looked very much as though it had been better cared for in its early days than in recent years. I do not like to tell stories about the President in that way, but these orchards have recently been overlooked to some extent. That is being overcome. We have got into the way of looking at the proposition in a proper light. In the past we have been overlooking the possibilities. I merely speak of that as a mere suggestion. In the past we did not appreciate fully the opportunities that we had before us. Now realizing, then, that Connecticut must take better care of her orchards and improve her methods of handling the crop, the Agricultural College, in coöperation with the Pomological Society is planning to establish a number of demonstration orchards throughout the state, as has been announced by President Beach. Now it is only necessary for me to say a word regarding the plan of this work. This demonstration work will be of two distinct characters, namely, the best and most approved methods of renovating the old orchards and neglected orchards; secondly, the best methods of starting and caring for young orchards. Those are the two different lines that we intend to take up, and we will have a number of orchards in which the demonstration work will be carried on, showing these two lines. After we have become a little more familiar with the work, and after we have gained some experience with the plans which have been formulated to carry on the work, we will probably increase the

number of orchards. The number must necessarily be small at the start, but we hope to increase these gradually, and have an orchard eventually in every section, or in such sections where they will be convenient for every fruit grower in Connecticut to attend, or study the demonstration which will be carried on. Further than that, we want to have field meetings, and that brings me to the point that in selecting these orchards for demonstration purposes we want orchards which are best located, so that they are accessible: in short, so that the orchard will be accessible to fruit growers and those interested in the plan. We need orchards that are favorably situated from the standpoint of soil, elevation and exposure. Those are the important things. Another thing. We will consider the attitude of the men, the owners, the attitude and reliability of the owners. I think from some points of view that the success of the undertaking will depend more upon the attitude of the man on whose farm we are doing the work than most any other factor. If he is willing to take hold of the work and coöperate with us, to follow the instructions of the College for a definite period of years, he will see the advisability of that course, I hope, and in a number of years will be able to reap a reward from it. Now, as I have already said, the work will be strictly coöperative in its nature, and the fruit growers will have the full benefit of the revenue from these orchards, and, of course, must bear the expense in taking care of them.

There is another line of work that we expect to start a little later, and that is coöperative experimental work. That is, we will establish a number of simple experiments in fruit growing upon farms situated throughout the state. This work we aim to make practical as well as experimental. We mean to make it strictly educational in its purpose. For example, we will start experiments with fertilizers. We will block off an orchard into three or

four different sections or divisions, and try each one of these divisions in a different way. These experiments, you can see, will be of great benefit to the individual fruit grower on whose farm the experiment is to be conducted. They will not necessarily be of any value to the man who owns the next farm, but they will be of use to individuals, and they will also be of use, if we have a large number of them, because by comparing results from a large number of them, we will be able to throw considerable light on many general questions of apple growing.

I do not believe there is anything else that I need to say at this time. This subject has been very thoroughly treated in what President Beach has said but if there are any questions pertaining to the details of the plan as outlined, I will be very glad to answer.

PRESIDENT GOLD: Dr. Jenkins, Director of the Connecticut Experiment Station, at New Haven, is here, and we would like to hear a few words from him.

DR. JENKINS: Mr. Chairman, Ladies and Gentlemen: I will not detain you by any extended remarks because the plan of operation has been so fully and so well described that nothing more on that question is necessary. I want to say, however, that the Station at New Haven, and I am sure also the Station at Storrs, enters most heartily into this plan of coöperation, and we want it understood through the state that the two Stations and the Agricultural College in this matter, and in other matters, are standing together. They have stood together, and they propose to stand together, and to work in entire harmony, because there is plenty of work for us all to do. The only thing that could occur would be that we might in some way, unintentionally, tread on each other's toes, but we intend to avoid that.

Now the work which has been outlined, it seems to me, covers the ground, because it is my belief that work of instruction is work which properly belongs to the Agri-



cultural College, while the two Stations have their own function, namely, the work of experimentation and research. We of the two Stations feel that we are engaged in a work that appeals not very strongly to public imagination. It does not get much publicity as the work of education or demonstration, but it is, nevertheless, a fundamental work. It is work which has got to be done. It is work which is necessary preparatory work. It may be work which goes on for a period of years and at the end of that time not have very much to show for it, or which will call public attention to it. On the other hand, it may be work which is of the largest benefit to the agriculture of the state. This whole matter of spraying orchards which we first introduced into the state more than twenty years ago, was introduced initially in an experimental state. It has now grown to be regarded as one of the necessary things in all branches of orchard culture. We are all engaged in that kind of work. Many experiments with different spraying materials and apparatus have been carried on. Many of those questions are questions of experimentation. We are engaged in that kind of work, carefully and accurately studying different methods and materials, also different fertilizers for orchards. We are studying questions connected with the care and development of peach orchards. We are carrying on at the present time studies of the insect problems as they have originated in this state. These are matters which require careful and accurate experimental work, and it is to that kind of work the Stations are confined, leaving, therefore, the educational work to the Agricultural College. Now that does not mean that we at the Station fall out of it altogether. We expect and are assured that the Agricultural College in the management of this work will call for as much work as the Station can give, and which we shall most gladly render.

But that particular point, Mr. Chairman, I think has already been very fully covered by what President Beach and Professor Jarvis have said. The main thing that I wanted to say is that while we may not get very much in the light or in the public eye, the Agricultural College and the two Stations want it very distinctly understood that they are in line, that they propose to work harmoniously and for the good of the agriculture of the state on this matter, and they invite you of the Pomological Society, and the members of the other agricultural organizations to get into line and to work with us, not for any selfish interest of your own, but for the general advancement of Connecticut agriculture. (Applause).

PRESIDENT GOLD: The Secretary has an announcement which he will make at this time before we take up the next lecture.

Secretary Miles announced regarding the banquet tickets, railroad certificates and membership in the Society, urging all present to become members.

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PRESIDENT GOLD: We are to have the pleasure at this time of listening to Professor E. D. Sanderson, who has been Professor of Entomology in The New Hampshire Agricultural College, and a gentleman who is a leading authority on the subject on which he is going to speak to us this morning; a man who has made a thorough study of insect pests, and I am sure he will present the subject to you in an interesting and instructive way. I have the pleasure of introducing to you Prof. E. D. Sanderson, of Durham, N. H.

## \* Some Insect Pests of the Apple and How to Control Them.

By PROF. E. D. SANDERSON, Durham, N. H.

Ladies and Gentlemen: In what I shall say to you this morning I think I can make my talk plainer by the use of slides thrown on the screen which has been arranged upon the stage. I shall perhaps be somewhat desultory, and talk to you in a conversational way, but on the whole I think I shall be able to bring out more clearly what I want to present before you if I do it in this way. I hope that you will excuse me on that ground.

Now if we may have the slides. This slide represents one of the worst pests to the apple grower that we have had to deal with, and is the San José Scale. You have in your state a State Entomologist, who is well versed on that, and full able to advise you what to do for that. We have very little of it in New Hampshire, and I have had very little to do with it, but it should be recognized as a pest which we must fight. It is one of the most destructive that we have.

Now we have on the screen two leaves affected by the leaf blister mite. I call it to your attention because we have had considerable trouble with it. I think probably that you may have had it in this state. Its activities seem to be quite widespread. It is the same thing that we have on the pear. You will notice the way it works with these pointed blisters on the leaves causing the leaf to drop off, and if the pest is present in very large numbers it, of course, tends to defoliate the tree. On the apple they are more brownish than on the pear. Why this pest should attack the apple is somewhat of a mystery.

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\* This excellent address was made doubly interesting by the use of numerous lantern slides which we regret cannot be reproduced here.

It has not usually been found on the apple. Possibly it has been due to the dry weather. The last two seasons have been particularly dry, and that may account for it. We have had it on the pear for years, but never before on the apple. It is rather interesting to note that this did serious damage in New York state for a couple of years. It seems that New York sets the style in insects as well as everything else, and if there is any new pest comes along, why, New York people have the credit of introducing it, and then we all follow in their wake. This mite, I would say, can be controlled by winter spraying with lime and sulphur, or with ordinary kerosene emulsion. Practically the same treatment as that given for the San José Scale will control it. The little mites hibernate in the bark of the trees. They are microscopic, but the mites hibernate in the bark and can be treated the same as for the San José scale. This slide shows one of the worst insects that we have had to deal with. As you know, it hibernates over winter in the egg stage, which you see here clustered around the butt,—you can see it in the little shiny black eggs. Here we have it on the leaf, just as the buds are expanding, and you can see little eggs around it. They are enormously prolific. One of these gives birth to probably fifty or seventy-five young in the course of a week or ten days. These give birth to living young, but the increase of the pest is exceedingly rapid. They crawl up upon the foliage, are very voracious, and unless something is done to stop the attack, they are very destructive. Here we have a sample of what they can do on this twig (indicating). Of course, we can see where many myriads of these little mites are clustered upon a tree or upon the foliage, sucking the juice from it, it very soon seriously affects the trees, causing a loss of foliage, and a general dropping of the vitality of the tree. One danger of this as an insect pest comes from the rapidity with which it reaches maturity. Some great stories are told about

the reproductive power of these insects. I took the trouble to study into a statement which was made by one of the older entomologists, Thomas, I think, that if the progeny of a single aphid which came out in the spring were left alive to reproduce that by fall, if they were placed side by side, they would cover the face of the earth for several inches deep, and they would reach from the earth to the furthest star. That seems quite a story, but there is some foundation for it. It is enormously reproductive. If any of you doubt it, just take a pencil and figure out the result from the rate of reproduction. It is really marvellous. So we must recognize that with the San José scale and with pests of this character, these smaller forms of insect life, there is an exceedingly rapid rate of reproduction. This is simply shown to give you an idea of their effect on young apples, where the aphid has clustered over the young fruit.

Here is a leaf which was covered with the aphid. This particular leaf is of interest because the individuals shown upon it were a bright orange color instead of the normal green that they usually have. It simply shows a view of the way the foliage is curled up by the aphid in the spring, and this other view is the same thing only it shows the effect on a tree which has been largely defoliated. The injury is the greatest on young trees. Old trees, although infested, do not suffer much, but young orchards up to eight or nine years of age are seriously injured by this aphid.

Now as regards treatment, there is just one time when you can spray for that insect, and that is as the leaves are coming out in the spring. If you make an application of the spray after the leaves are curled up it is almost impossible to penetrate inside of them so as to reach the pest. Although you can kill a good many of them, a great many escape. If the spray is applied before the foliage has expanded to any great extent, or before the insects have



commenced to work so as to cause the leaves to curl, you can control it by spraying with any of the substances which are usually used against plant lice, such as whale oil soap, in the proportion of a pound to five gallons of water, kerosene emulsion, and tobacco mixture,—any of these remedies will kill them. In Colorado they have had some success with spraying with the lime and sulphur mixture in winter. That has been tried in New York state without success. The matter of killing the eggs by a winter application of the spray has not been tried out in the east. Applications made in the east do not seem to have been entirely successful, but there is promise that this will be effectively remedied before long. If you wish to spray, spray when the eggs hatch. Later in the season it is difficult to spray for them. From some experiments made in Delaware, particularly in an orchard of many trees, it was found that they could be readily controlled by a fumigation process, by placing a form, such as you see at the left here, covering the tree, and then using tobacco powder underneath. By fumigating with the tobacco powder for about twenty minutes, you can usually kill out the aphids entirely, but you usually find that the aphids will attack one or two trees, and that they then spread, so it is difficult to know just where to locate them. If you are thorough and clear them out in these few trees where they are found, usually you will have but little trouble with the few that may escape. I believe it is entirely practical to fumigate small trees, or in small orchards containing comparatively few trees. This plan has been used very successfully in a number of instances that I have known of.

The next pest, as you see upon the screen, that we have to fight in the spring, is the tent caterpillar. This view shows the eggs found right near the tip of the limb. Of course, it is an easy matter to prune these off while you are pruning in the winter and thus destroy the insect.

These hatch about the time that the buds are expanding in the spring, and the little caterpillars make their web right over the old nest. The caterpillar leaves the next to feed, and immediately commences to increase as shown on this diagram, and unless we take pains to clear them out, we are apt to find some entirely grown caterpillars by this time, and it is not long before they will have defoliated a large part of the limb. We have in this slide simply a resumé of the life history. The eggs up in that corner, the adults here, which change into the pupae, and then from that come the males and females. The females lay the eggs in June, and that completes the life history. A thorough spraying given in the spring as the foliage is expanding controls this insect entirely. If perchance you have not sprayed, and you find webs here and there on your trees, we have found that a very good way is to take an air or pressure syringe, or to go with a barrel apparatus and spray them. On the larger trees or orchards it would not be very practical. A good plan is to take a long extension rod, with the necessary attachments, and use pure kerosene, spraying it right on to the nests so that it fastens to them, and completely saturates the nest with kerosene. They will stay there for a day or so, but it will kill out most of the worms. It is better to do it in the early part of the day. By using care, you can kill them out very effectively. I should prefer to make a regular spray however.

Another insect, the apple curculio, which has been causing a little trouble, is shown on the screen. These come out about the time the fruit is formed. Here we see some of its work. The crescent mark which gives it its name is the little pocket in which the eggs are laid. This shows the effect of the egg punctures on the later fruit. As you know this results even in full grown fruit. A great many of these apples drop off. Those which are punctured are also apt to drop, but the others remain on

the tree. These two slides show eggs within the apple. The one at the left shows the egg in the apple quite clearly. The puncture is made in the form of a crescent-shaped segment. You see how the insect works into the flesh of the fruit to deposit the egg. Notice this in particular. In that way the growth of the apple does not injure the egg, the segment being cut out over the rest of the apple. These maggots do not develop in the fruit which remains on the tree but in the dropped fruit they develop quite rapidly, as we shall see. The worm usually eats out the tissue of the apple rather than the core, whereas the codling moth usually works more in the core. Now so far as this pest is concerned, it can usually be controlled by spraying a couple of times within two or three weeks of each other, with arsenate of lead, using two or three pounds to the barrel. It will not kill them all. It helps. It will help to keep the foliage on the tree and decreases the injury very much. The next best thing to keep this pest in subjection is thorough cultivation of the orchard. The grubs when they become overgrown go into the ground. If the ground is thoroughly stirred during the summer, a great many are killed, while in the pupae stage in the soil. Investigations in Illinois have shown that this reduces the pest very materially.

Another insect with which we have had a great deal of difficulty, as you know, is the codling moth. Here we have one of the larvae in its winter cocoon on the pit-bark. This view is looking at the underside of the pit-bark. It is the portion of the trunk of an apple tree and you can see concentrated here and there these little white spots which are the old cocoons. If you take any old apple-tree orchard which has not been sprayed and scrape off the bark you will find lots of these old cocoons in which the larvae are hibernating over winter. In this state, as well as with us, one of the most effective enemies of this pest is the birds. It is one of their chief foods.

They peck through the bark, as you can see here, to reach the insect. This shows some cocoons on the inside of the old puncture where the larvae has been removed. If you were to see the other side of this bark you would see the puncture through into the cocoon of the codling moth. Now we have made some careful study to see how effective these birds were, and we found that by taking the cocoons on several trees in one orchard and making a test, from sixty-five to eighty-five per cent were killed out in the winter by the birds. So you can see it is a very practical means of keeping this pest in subjection. Therefore, birds should be attracted to the orchard. It is a first-rate idea to lure birds to the orchard by hanging out among the trees, here and there, bunches of suet. These will serve to attract the birds, and in that way you can keep down, to quite an extent, the ravages of the codling moth.

Now about the middle of June the caterpillar transforms into pupae, as we see here, which is the dormant stage until the moth expands. These insects go through a very wonderful transformation. Here we have the adult moth of the codling moth after the transformation has been completed. This small insect has a wing expansion of three-quarters of an inch. You will not see them very often unless you are looking very closely for them, because they are nearly the color of the bark. They can be readily reared, however, and when they are reared, they are rather more of a grayish or yellowish brown with copper reflections on towards the tip of the wing. At that time they are not quite so much like the bark. In this view here you can see that it so nearly resembles the bark, or fungus growth on the bark, that you can hardly recognize the outline. That is not due to the photograph, because if you had that piece of bark you could see the moth on it. So it is not surprising that you do not see these many times in the orchard when they are actually present.

About the middle of June, possibly from the 7th to the 10th of June—if I was to hazard a guess as to the time in this latitude—some of them emerge. In some instances, if the weather conditions have been right, they make their appearance late in May, and, on the other hand, as late as the first of July. From the seventh to the tenth of June I should presume to be about the time of their emergence here. The female moths commence to lay their eggs, if the nights are warm; if the nights are cold, they sometimes wait for a week, and even ten days, before commencing very well. The eggs are laid almost entirely on the foliage. We used to think they were laid on the apples, but very careful studies have shown that they are laid on the foliage. Here we have a little section of a leaf with the egg shown up here. It merely looks like a blister. The egg looks like a white blister, and it would be rather difficult to see it unless you are familiar with it. Probably about seventy-five eggs are laid by each female, and they are laid during the course, maybe, of two or three weeks, depending a good deal on the weather conditions. This picture shows one of the eggs very much enlarged. Now we found out the place in which these eggs were laid, by some very careful work in which we put a large cage over trees eight or ten years old. Then we took one pair of moths, liberated them in this cage, after having gone over the tree to see if there were any eggs upon it. We loosed a pair to moths and allowed them to lay. Then we went over the tree again, and found out where they had laid those eggs. In that way we were able to follow the actual life history of the pest under normal conditions. We also had other cages which we attached to the limbs so as to study the life history of the insect. The eggs hatch in about ten days, and from the egg comes a little caterpillar, a little fellow about a twenty-fifth of an inch long. They mostly all have black heads, begin to crawl about and feed upon the soft parts of the foliage. They feed



somewhat on the surface before going to the apples. Occasionally you can find evidence where the larvae has fed considerably on the foliage. We do not think that this is common in orchards. It is possible in a year when there are no apples in the orchard the larvae might survive by feeding on the foliage, but it is worthy of note as showing that the larvae can feed upon the sprout. When the larvae has fed a little on the foliage, then they travel to the apple. They may travel quite a little ways. The eggs are laid upon all parts of the tree, whether there are apples on the limbs or not. We found that the average distance of the egg from the apple, however, was about nine inches, so that they have to travel, in some instances, quite a little ways. Now when they get up to about that growth, as you see in the diagram, about two-thirds of them enter the blossom end of the apple. Here we see one of the little caterpillars feeding around in there, before mining into the fruit itself. Now the fact of their entering the blossom is the basis of our spraying operation. They work their way into the core a little at the side, and then go out through the side of the apple, leaving the ordinary worm-hole which we often see. The caterpillar spends practically a month in the apple feeding and then they come out and spin their cocoons, and same as in the winter, on the bark of the tree.

Now in New Hampshire we have very few which hibernate over winter and transform. They make, however, in the fall, in latitudes where the conditions are favorable, a second brood. Only about two or three per cent transform in the way that you see in the picture. They lay eggs on the trees, and the caterpillars hatch, and these feed on the apples, but their habits are quite different from the first brood. They feed more on the surface around the blossom end, and do much damage, as you can see. Now I am not informed as to what proportion of the second brood you have here, but doubtless there are very much

larger second broods in this latitude, and undoubtedly the injury is considerable, so it would be a thing of much more importance. Even in New Hampshire this second brood does a great deal of damage, and you can see that if only three of four per cent of the females lay seventy-five eggs, the big fruit is more injured by the second brood than by the first brood.

We have here at the top of the screen the blossoms, showing the proper time for the first spraying, which is after the balls have dropped when the calyces are open. That is the time to spray for the codling moth. On the right we have another view, as you see, showing the calyces when they are closed too much for effective spraying. The first spraying should be just when the blossoms drop, and must be done within a week of dropping to be effective. It is well to be pretty prompt in beginning to spray at that time, especially with apples like the Baldwin, where the calyces close rather quickly. If the spraying is done too late, it is impossible to deposit the poison in the cavity of the calyx where the caterpillar is, so that this is the most important time to spray for the codling moth. We have tested out the merits of this question of time, and we have found that even with one spraying we could decrease the ravages of the moth by about eighty per cent; that we could cut out at least eighty per cent of the injury, and that is, at least, eighty-eight to ninety per cent of the fruit, considering the whole crop. That is about the benefit we get by one spraying.

Now I have shown this slide on the screen to show the conditions in a run-down old orchard, with the branches down, and which have not been sprayed. Here is the conditions you find on the ground, the ground simply covered with apples. I have put that on to show the difference between an orchard which is cared for and one that is not cared for. Simply picking up the dropped apples and scraping the trees will make all the difference in the

world. By scraping off these cocoons in the winter it will reduce the injury very much. You can see from the picture what a difference there was in the productiveness of the orchard. We picked about four barrels from this tree and two barrels from the other, making a difference of quite an amount in the two trees. When you come to multiply that by the number of trees in an orchard you can see it is quite a material sum. This was simply to give you a comparison between two orchards where all conditions were cared for, and in an orchard which had not been cared for.

Another thing, we never can spray very advantageously these old high trees. These old trees ought to come down. They are nice things in the landscape, but they are practically of no use. It is the same way with the old pasture trees which are so far off that they produce simply poor fruit. We cannot afford to let those trees stand. They should come down. They will make good firewood.

Probably many of you say that a tree ought to be thinned or trimmed out. Well, our people have not got to the thinning stage, but we can show the result of spraying, as we do in this orchard, which, it seems to me, is a pretty good illustration of successful spraying.

These trees show the results obtained from experiments to find what the average benefit was from spraying. Even if we obtained as low an average benefit as \$1.15 per tree, it is certainly one of the most profitable operations we can undertake.

I have omitted to mention the second spray, which should be taken up here. Frequently, it used to be recommended to spray the second time for the codling moth about ten days to two weeks after the buds appear. There seems to be no particular reason for putting it three or four weeks after the blossoms drop, which would bring it about the last week in June. At that time the eggs are

hatched, the moths emerge about this time, and begin to develop and lay their eggs, so that the eggs are hatched along about the last week in June. Spraying at that time should be put on so as to cover the foliage, and with the idea that it will kill the young worms. We have found by simply giving that second spray, even without having given the first spraying, it will aid the foliage, and that we could cut out seventy per cent of the injury, so that it is nearly as effective. I would not recommend depending on that second spraying. The first is by all means the most important, but if for any reason you are unable to give that first spraying, it would be well to apply this second spraying, and the mixture will stay on the trees, so that you will secure a good deal of benefit by killing out the second brood when they hatch. This picture shows the mixture on the leaves. That foliage was sprayed about the first of June, and the photographs were taken early in September.

As regards material for spraying I should certainly advise arsenate of lead, using two to three pounds to the barrel. If you will do your work thoroughly, two pounds is enough. I usually recommend three. Thoroughness is very much more important, and two pounds is plenty if you use it thoroughly. Arsenate of lead can be used with the Bordeaux mixture, and with lime and sulphur. There is still some little doubt as to the advisability of mixing arsenate of lead and lime and sulphur. We have discarded our Bordeaux mixture because we had so much injury to the apples so that lately we use the lime and sulphur.

Now about the apparatus. As a general thing, I recommend the barrel pump of the general type shown here. There are plenty of them downstairs, and for orchards ranging from three to five hundred trees, one of these of the horizontal type is the most satisfactory. You can cover the trees more quickly and maintain a higher pressure. For

a larger orchard than one of from four to five hundred trees, of course, a different type of apparatus is desirable. A power outfit, a gasoline power outfit, is probably the best, all things considered. We have used the gas sprayer with very good results in a small way, but there is one objection to them: if we are going to use the lime and sulphur, the gas has a chemical effect on the lime and sulphur. Merely for the arsenate we have had very good results with it. One thing we can do, and that is to spray the way this man is spraying. That is an old picture taken ten or fifteen years ago. It is too much like an irrigating process to suit modern conditions. In a small orchard we have used another type of spraying apparatus. As an experiment we have used a little tower mounted on a wagon. That has some advantages, one of which is that it enables a man to get right up on a level with the trees, so that he can readily cover the foliage. Here is another type of apparatus which is supported on two rods, with a special derrick built for it. This does not catch in the limbs quite so bad as the high tower of the other type. These two rods are usually made of bamboo. Now there is a point that you should remember. In buying bamboo, see to it that the sections are so that they will not twist off the first time you use them. Some of them are exceedingly exasperating in that regard.

Now I want to close by saying just a word about nozzles. We have the old Bordeaux type but that has largely been displaced. We have over here on this slide a new type which I propose to call the disc type of nozzle. I think most of the pump companies are making this nozzle, and we may call them the disc type of nozzle. You can recognize it from the picture. I have used this for the last couple of years, and it seems to me very much superior. It will not work very well at a low pressure. You want at least eighty to one hundred pounds, and you must also have a long shank hose of good quality. I think more



people get discouraged from having the hose break and throw the spray all over them, so I usually recommend that kind. You can get that if you insist on it.

Now, Mr. President, my time is up, and I am going to stop this discussion right here. We may be able later, to take up for consideration some of the other insect pests, and the discussion of any points in regard to what I have brought out this morning.

MR. FENN: I just wanted to ask the gentleman one question. When you spoke about spraying for apples, what time did you state we should commence?

PROF. SANDERSON: I should spray when the foliage is expanding in the spring, just after the buds open.

PRESIDENT GOLD: The hour has arrived for the noon adjournment, and Professor Sanderson will answer any question at the afternoon session. We want to get back here promptly this afternoon.

A recess was then declared until the afternoon session, at 1.30.

## AFTERNOON SESSION.

The Society was called to order at 2 p. m. for the afternoon session, President Gold in the chair.

The attendance throughout the day was the largest in the history of the Society, every seat in the hall being filled. There were many ladies present, and all present manifested the greatest interest in the proceedings.

PRESIDENT GOLD: Give your attention, ladies and gentlemen, and we will take up the work of the afternoon session.

The Committee on New Fruits, the report of which is expected to be made to-morrow, requests that notice be given that if any person or member has tested any new varieties of fruit during the year so that they have formed a settled conviction with regard to their value, the Committee wishes them to make an expression of their views to any of the members before leaving the hall this afternoon. Mr. John R. Barnes is Chairman on the Committee on New Fruits. If you have any views in the matter, you will please call his attention to them, or see one of the other two members of the Committee during the afternoon. They will all be here in the hall, and they would be glad to hear from you.

Now I would like to take up and discuss some of these questions which are on the printed list. The first question, perhaps, might be of interest. "Can hill lands located five to eight miles back from a railroad station be profitably used for orchard purposes?" Will anyone volunteer any information on this subject? Mr. Hale, will you say a word? Mr. Hale does not appear to be here. I know that he has tried some such land. Perhaps Mr. Coleman of Seymour would say a word.

MR. COLEMAN: Mr. President, I think they can be.

PRESIDENT GOLD: Well, can't you give us some reason?

MR. COLEMAN: I think that this land can be profitably cultivated for orchard work. I think there is no doubt about it. There is a lot of excellent land in this state which can be bought for low prices, and which is better than some land which is close to the railroad. I do not believe that the fact that it is distant from a railroad station is enough of a difficulty to prevent its use. Even if it is as far away as six or eight miles, it does not necessarily destroy its value for orchard work. To be sure, it is somewhat of a handicap to have it located as far back as that, but there is a lot of that kind of land in the state which ought to be taken up, and if it was properly cultivated and set out with young trees, would make mighty fine orchards. Some of these places in the back towns are better to visit than those that are nearer to markets or to a railroad station. There are a good many points in favor of such land over land that is situated nearer a railroad outlet.

PRESIDENT GOLD: Professor Sanderson is still here, and we will call on him to say a few words in connection with his address of this morning, and you will then have an opportunity to ask him any questions which you wish.

PROF. SANDERSON: Mr. Chairman, I had to hurry through the slides this morning.

The slide which I left on the screen showed the apple maggot. I really wanted to bring out the difference between the apple maggot and the codling moth and why the method of spraying for one is of no value for the other—for the apple maggot. The only method of controlling the maggot, as we know, is to pick up the fruit which is dropped, or else to run the hogs in the orchard, and keep the orchard thoroughly cultivated. Where you have only a few trees, you can fence them in, and by keep-

ing a good flock of chickens on that land, the apple maggot can be brought almost under control. That is true if you have only a few trees, but if you have a lot of trees that will not work so well, as the chickens will not pick it over so much.

I mentioned two sprayings for the codling moth. The first in this latitude you want to give soon after the leaves are out, and the second when it is necessary, as I have already indicated.

Now you have not got the brown tail moth yet, as we have it in some sections along the coast of New England. When that comes you will find that you have got a job on your hands. The spraying should commence the first week in August, just as the eggs are hatched. Then you can kill out the winter larvae. Not only the brown tail moth but such pests as the fall web worm, which makes a covering over the whole tree sometimes. You will find the nests at the tip of the limbs. They usually commence to feed at the tip of the limbs, and strip the limbs back from the tip. We have the brood, which comes along in August, which, at this season, can be controlled. I have urged our people very generally to spray with arsenate of lead the first week in August, using about the same strength that you use when you are fighting the brown tail moth. I use four or five pounds to the barrel. Spraying for the brown tail moth must be done early in August. If it is done late, the spraying will not be so effective.

I have no other remarks, Mr. Chairman, but there are probably many points about spraying for the codling moth that I failed to bring out in hurrying through, so if there are any questions I would be glad to answer them.

#### DISCUSSION.

QUESTION: I would like to ask the speaker if he thinks that the brown tail moth, or the gypsy moth, are making much headway.

PROF. SANDERSON: Northeastward, yes sir. The brown tail extends practically through eastern Massachusetts and New Hampshire, and up into Maine, I think as far as Waterville. It has extended more particularly up the coast. That is about its northern limit. The gypsy moth covers pretty nearly the same territory at the present time. I do not know that either of them are found in Vermont.

QUESTION: Have you had any trouble with arsenate of lead or Bordeaux mixture injuring the fruit?

PROF. SANDERSON: I think not. We have found that the amount of spray deposited upon the fruit is not injurious. If it gets a little too thick, it is an easy matter to rub it off in packing. Of course, if you are using the spray right there is no necessity of having it on too thick. In some cases where I have known parties to spray for the gypsy moth, they have got on too much.

MR. PLATT: Do you know of any control for the Baldwin spot—what we know as the Baldwin spot?

PROF. SANDERSON: That depends on what you are talking about. There are two or three different things that have been confused under the name of "spot." Our botanist, Mr. Brooks, has done considerable work on a disease which he calls the "fruit spot," and which sometimes has been called the Baldwin spot, and which appears on the apples as a little greenish or brownish spot about the time it is ripening, and becomes black on others, or of a blackish color. It is due, as I understand it, to a fungus which can be controlled by spraying with Bordeaux.

There is another disease to which my attention was called this morning, in which the color of the spots is greenish. Here is a specimen. So far, he has been unable to isolate any fungus from it. He is investigating with the idea of trying to determine what the cause of it is. Some botanists have claimed that they could not control it. With any of these sprays, and none of the sprays that



I know of will control it. Whether that is the same spot that he is working on or not I would not want to say. I think it is. I believe a report or a bulletin has been gotten out covering that work, and if you will get this publication I think it will cover the matter fully.

MR. FENN: Those are sprayed but once. Do you think that more sprayings would overcome that?

PROF. SANDERSON: I should doubt it. I would not want to express any opinion on that though. The matter is under investigation.

QUESTION: I would like to ask the Professor if this one is a distinct indication of the way they always appear?

PROF. SANDERSON: Well, it may be or may not be. You get a reddish spot sometimes. They notice red spots on the fruit.

QUESTION: Will you please tell us what is the matter with that apple? (Member hands apple to the speaker).

PROF. SANDERSON: Well, that is a canker of some kind, I would respectfully refer it to Professor Clinton, if he is here. It is one of the cankers. There are three or four of them, but just which one I would not want to say.

MR. FENN: If you spray in early June, and you get rainy weather after that, it has been our experience that it will rust the apples, and rust them so badly that sometimes the fruit will crack all open. The remedy is worse than the disease. The foliage drops off. We have had so much trouble with that that we have had to discard the Bordeaux mixture. With a dry season, there are practically no injuries from Bordeaux mixtures, but we never know whether we are going to get rain or not. In a great many seasons we will have rain all through June. For the two successive seasons of 1905 and 1906 we had very severe injuries from Bordeaux, and it was made every way that we knew how.

PROF. SANDERSON: You never know how it is going to come.

MR. FENN: Can we ever tell when we are going to get it?

PROF. SANDERSON: No sir, and that is one reason why we do not feel like taking the risk.

MR. FENN: The remedy is worse than the disease, so I dropped Bordeaux, and simply use arsenate of lead.

PROF. SANDERSON: I think that the lime and sulphur is going to be the ultimate remedy for that. I think it is, although I do not know. We have had very much of that in the experiment plots where we have been working.

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MR. STANCLIFF HALE: Mr. President, at this time, I move that a Nominating Committee of one member from each county be appointed to select a list of officers for the coming year, and report at to-morrow's session.

Motion seconded.

PRESIDENT GOLD: The motion is made and seconded that a committee of one from each county be appointed for the purpose of bringing in names for the officers to be elected at to-morrow's session. Any remarks? I will put the motion. Those in favor, signify by saying "Aye." Contrary minds, "No." It is a vote. It would be proper in view of this vote to now appoint this nominating committee. I will call for nominations by counties, beginning with Hartford county.

The following were then nominated and duly elected as a Nominating Committee:

Hartford County—A. B. Cook, Farmington.

New Haven County—Zerah P. Beach, Wallingford.

Fairfield County—S. M. Foster, Westport.

New London County—Chas. A. Gray, Norwich.

Middlesex County—G. W. Spicer, Deep River.

Litchfield County—C. S. Phelps, Salisbury.

Windham County—E. E. Brown, Pomfret.

Tolland County—Prof. C. D. Jarvis, Storrs.

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PRESIDENT GOLD: The next topic on our program for this afternoon is an address by a gentleman who has been doing some excellent work in orcharding lines. Some of these apples in these boxes before us show some of the things he has accomplished by taking an old orchard and bringing it back to a condition of fruitfulness. I do not know as it is necessary to make any comparison in order to tell you that these apples are just as nice as those which come from Oregon and Colorado. With one or two exceptions, all of these apples banked on the stage in front of me are Connecticut apples. I believe there is one box here from Maine and one from Massachusetts. The rest of them are Connecticut-grown apples, and those grown in Connecticut I wish to state have been grown by members of the Connecticut Pomological Society. Now before introducing Mr. Drew, who is going to speak to us on this subject, I want to call your attention to this silver cup, and also to the medals beside it. These are some of the trophies which came to Connecticut from the Boston show. There are quite a number of others which we have not been able to bring here. I hope to have some of them later. There are also some ribbons which we expect to have later to show you some of the things that we accomplished at Boston.

Now I will call on Mr. George A. Drew, Manager of Conyers Farm, Greenwich, Conn., who will speak to us on the subject of "Reclaiming the Old Apple Orchard for the Production of High Grade Fruit."

## Reclaiming the Old Apple Orchard for the Production of High Grade Fruit.

By GEO. A. DREW, Greenwich.

Mr. President and Members of the Society: Some time ago your Secretary asked me if I would open this discussion on the subject of reclaiming old orchards, and, without stopping to think, I consented, little dreaming that I should be put down on the program for a regular address. As my part of the bargain was only to open the discussion, I will leave the bulk of the subject to others who have had more experience in this line than I have, but the subject of orchard renovation is one of great fascination to me, and one of such vital interest that I take pleasure in calling your attention to some of my own experiences in this line.

It is a sad sight to me to ride through different sections of New England and behold orchards formerly productive and profitable now neglected and going to decay. Why New England farmers have been so unprogressive as to allow such conditions to exist is hard to fathom. Can anyone tell me of any more profitable section of the farm than a well cared for orchard? Yet it is generally the most neglected of all crops and the last to receive intelligent attention.

Let us consider why these orchards have been so neglected. Have the seasons and weather conditions changed or more difficulties been encountered? Certain it is that the difficulties encountered to-day are numerous yet not insurmountable.

Whatever the cause, we are brought face to face with the conditions as they exist and we ask ourselves what we are going to do about it. Shall we continue to see the old orchard decay, neglect to plant out new ones; and see fruit raised two or three thousand miles away, sold right under our noses for two or three times what our own native fruit brings and yet net these western growers a handsome profit





Orchard Reclaimed From Neglect and Scale.  
Average Yield, 9 Barrels per Tree in 1909.



King Apple Tree Headed Low.

VIEWS TAKEN IN THE ORCHARDS AT CONYERS FARM, GREENWICH,  
OF WHICH MR. DREW IS THE MANAGER.





after paying freight, commission, etc.? We dislike to admit it but there is no question but that the western apple has captured the fancy high priced trade away from us and we alone are to blame.

Facing conditions as they are shall we be content to take second place acknowledging we are beaten and simply accept what the market will offer for an inferior article? I for one say no. In my opinion the western grower has had his palmiest days and must soon look to his laurels for the eastern fruit grower must soon awake to his opportunities.

We may well ask the question why we do not grow as good fruit as our western neighbors? Is their soil better adapted than ours to fruit growing I can hardly believe there is anything better than our own New England hills. When well grown the product is equal or superior to that of the west. The recent New England Fruit Show demonstrated that while we may as yet be weak on grading and packing, our product is not to be despised. Are they more immune from insect pests and fungous diseases? On the whole I believe they have as many obstacles to contend with as we. Is their climate more favorable to developing a more perfect fruit? Possibly color is easier to get, and yet on the whole I would say no. Why, then, do they so excell us at the present time? It seems to me it is more because they have reduced fruit growing to a business proposition where organized effort supplants that of the individual. There it is a business proposition to raise fruit, and best fruit, and anything that interferes with it is fought and overcome.

We have scales, codling moth, etc., until it seems as though one enemy was overcome only to be confronted by another. What shall we do, give up the struggle? No! emulate the example of our western friends and fight them.

I have called your attention to our neglected orchards and western competition, facts of which you are all aware. It takes time to get an orchard started and in profitable bearing condition, but scattered all over this eastern country are

any quantity of orchards from 25 to 50 years old that are in total or partial neglect. Is it possible to take these old orchards in hand and put them into good bearing condition? Is it a profitable undertaking? To both questions I would answer yes.

Can one expect to get as good fruit from these reclaimed trees as from newer planting? I would answer that I had no difficulty in doing so. Perhaps one or two qualifications should be made: Where the trunks of trees were in a too advanced stage of decay; and where natural conditions made it inadvisable.

What is the best method of accomplishing this renovation? I will speak of the methods, which, while they may not agree entirely with your ideas, I have followed for some years with a fair degree of success.

It is quite a task to thoroughly renovate a thoroughly neglected orchard, and it requires considerable time and patience. For the sake of clearness, let us consider it under the following heads: Pruning, spraying, cultivation, fertilization and thinning the fruit.

### Pruning.

Most of the older orchards were planted with the idea of harvesting a crop of hay first and apples second. This caused farmers to prune off the lower branches so that the teams would have no difficulty in working underneath. A bad practice at best, it is absolutely fatal under present day conditions. What we want now is a low-down spreading tree with the ends of the branches touching or nearly touching the ground. We want to prune down, not up. These low-down trees can be sprayed at much less cost, the fruit can be picked at much less cost, the trees are much less wind-racked, and the fruit if it falls, is not so badly bruised. Granting that I have stated the case correctly, most of the old orchards have been pruned up, how can we get them pruned

down? It is surprising to see how quickly an orchard will respond to a systematic method of treatment.

In case of a severe infestation of San José scale I have not hesitated to cut off practically the whole top of the tree down to stubs six or seven feet from the main trunk, though I prefer to leave some branches if possible. Many water sprouts will start but these should be judiciously thinned out the following summer, those left will ultimately form the new head. It is practically impossible to destroy a severe infestation of the scale when the branches are left high up, thirty to forty feet in the air. Ordinarily I would not advise quite such severe treatment, but would take two or three years to accomplish this heading in. If considered best to accomplish this in two years, I would cut one-half of the main limbs back severely, say to within ten to fifteen feet of the main trunks, according to conditions; the rest of the top I would cut back to a limited extent, say four to five feet. This treatment will cause many water sprouts to come out, a little above where the main branches fork. As in the former case, the best should be allowed to grow, and the balance thinned out the following summer. The next year those branches only moderately pruned the year before should receive the severe cutting back and so on until an entirely new top can be constructed and ready for business in from two to five years, according to conditions of trees. Our aim is to get new, clean, vigorous bearing wood. In many cases all that is needed is to cut off the high center limbs, this throws the growth to the side limbs.

While I believe in a low down, spreading tree, I also believe in having an open top, and the extremities properly trimmed to aid a good free circulation of air and allow the sunlight to get through.

Make a rather slanting cut on big limbs in the top of the tree rather than a perfectly horizontal cut to shed water. Treat cavities to arrest decay. For the first two or three

years paint or tar wounds. Summer pruning is advisable when the trees are not bearing heavily.

### Spraying.

There is no orchard practice more important and perhaps none less thoroughly understood than spraying. Some people thing it a cure for all troubles and spray without careful consideration of what is to be accomplished. As you all know, we spray to kill insects and fungi—old orchard trees generally have both. In my own case the extermination or control of the San José scale was my great problem in this line. The old trees were so thoroughly infested with this pest before they came under my supervision that in many cases the ends of the branches were killed back completely for several feet and I could scrape off in masses these incrustations with a knife. In many cases the life of the tree had been so sapped out that it seemed almost hopeless to save the trees. In such cases I have used the soluble oils and lime and sulphur solutions. In severe cases of scale infestation I would advise the soluble oils in preference to lime and sulphur, as I think it a little more effectual in killing the scale. Lime and sulphur is good to use for a slight infestation.

A combination that has worked very well is to spray with oil late in the fall, after the leaves have fallen, at the rate of one to fifteen or one to twelve. Then in the spring just before the buds unfold spray with lime and sulphur solution. Thoroughness in application will control these pests effectually. Even were there no scale I would give old orchard trees, occasionally, say every two or three years, a good spraying of lime and sulphur in the dormant season.

Bordeaux mixture is fine for foliage in that it controls ordinary fungous troubles; but it rusts the fruit, especially Baldwins, Greenings and Ben Davis. I believe in lime and sulphur as the coming summer spray.

I think up to very recently most of us have been using Bordeaux mixture, but my experience with it has been that



unless we use very great care, we are very apt to get rusted fruit. A good many growers have found a great deal of fault with the use of Bordeaux mixture on account of that trouble, which results from its use. In our own case we had a very bad case of the mixture rusting Greenings and Baldwins, and we cannot afford to have that. The Greenings in many cases completely cracked open, the Baldwins were also badly rusted. Now the problem is to find out how to use the mixture so as to avoid that trouble. To my mind, the Bordeaux mixture has some points of advantage over other spraying materials. We have been experimenting with the lime and sulphur solution. We have also been experimenting with "sulfocide," and they have given us some promising results. It seems to be a pretty risky proposition to go on using the Bordeaux mixture, and it has caused some of us, and I guess a good many of us, to wonder if we could not give the trees a treatment with the lime and sulphur mixture, and then depend on the arsenate of lead alone for summer spraying. That has occurred to me. You have got to have some summer fungicide. We will probably learn to-morrow morning a great deal more about that. I would say that we have tried it on quite a number of varieties, both the "sulfocide" and the lime and sulphur, and I think we may assume that the sulphur is going to be used more and more as a summer fungicide rather than the copper sulphate. The Bordeaux is fine for the foliage, and for controlling ordinary fungus troubles, but, as I have said, is rather dangerous to use because of the fact that it rusts the fruits.

### Cultivation.

As a general rule I believe in cultivating an orchard. Nine people out of ten cultivate too little rather than too much. That is cultivation would be my rule, leaving in sod an exceptional practice. Start to cultivate early, and leave off early, say June 1st to 15th. Sow clover for cover crop. I am aware it is a little harder to get a good colored product

from a cultivated than from an orchard in sod. Some of us have even cultivated too much or continued it too late in the season. I am frank to say I think I have made mistakes in this direction. When a tree is making a too vigorous growth I believe it is better to seed down with a good clover sod for a year or so and then break up again. Use a Clark's orchard harrow for breaking up sod where it is not advisable to break surface roots with a plow.


### Fertilization.

To help promote a vigorous wood growth as well as a fine texture fruit some form of fertilization is necessary. You still hear occasionally of people who will claim it is impossible to keep up the fertility of the soil without the use of stable manure, that commercial fertilizers are a fraud or only act as a stimulus for a short time. While I would not disparage in the least the use of stable manure, if I was obliged to take any choice between stable manure and agricultural chemicals, I would take the chemicals without hesitation every time. There are fertilizers and fertilizers; some act quickly, while others last for years. Some fertilizers are dear at \$20 per ton, some cheap at \$70. In all my orchard reclamation work I have used no stable manure or mixed fertilizers. I buy the raw chemicals because they are cheapest, and you know what you are getting. I have used agricultural lime, basic slag, nitrate of soda, sulphate of potash, and nitrate of potash; but my main reliance has been on basic slag, nitrate of soda, sulphate of potash and clover. The first year I used about 150 pounds of nitrate of soda, 250 pounds of sulphate of potash, 500 pounds of basic slag. Afterwards give an annual dressing of 150 pounds sulphate of potash, 300 to 400 pounds of basic slag. Broadcast the fertilizer; but keep it away from the trunks of the trees.

### Thinning the Fruits.

No one, I think am safe in saying, questions the wisdom of thinning peaches after they are large enough to deter-

mine what shall be left on. Why should not this principle apply to apples as well? I wonder how many of you have ever tried it? Unless you have I am sure you would say it is impracticable, that it would take too much time and labor, and that the effort and expense would be all out of proportion to the benefits derived. With the old-fashioned high-headed trees, way up in the air, the expense would be much larger; that is one reason I am advocating low-headed trees. For the past three years I have made it a practice to thin all my bearing trees in June, picking off all wormy and imperfect specimens, and leaving only one fruit on a spur or the apples not closer than five or six inches apart.

The first year I attempted it the neighbors for miles around came to see the novel spectacle of the fanatic who was picking his apples in the summer, and yet in the fall when the demonstration was plain they allowed there might be something in it after all. It is not such an expensive operation. On trees yielding eight to nine barrels it only costs from forty to fifty cents per tree. The other advantages are: The percentage of culls is small; the fruit is larger; the strain on the tree is less, and we are getting our trees more nearly into annual bearing. 

We are getting so we can grow good fruit, but we are still woefully weak on grading, packing and marketing. These are the things we must study. In time I believe we must form associations like our western competitors. The man who grows the fruit cannot be trusted to grade and pack it, however honest he may be in other directions. We must get together, coöperate, even if we do not form associations. We must adopt a uniform package, hire expert packers and graders to do this work for us, so that Connecticut fruit, at least, will be known and respected.

PRESIDENT GOLD: Mr. Drew is here before you and ready to be questioned. He has already told you a good deal, but if you will just ask him some questions he is

ready to answer them, and I am sure can tell you a good deal more.

#### DISCUSSION.

MR. FENN: I would like to ask Mr. Drew why he used sulphate instead of muriate of potash?

MR. DREW: While it costs more than the muriate, the sulphate of potash, I think, is a better form. I do not think we have emphasized enough the value of lime. Muriate of potash contains chlorine, which unites with the soluble lime in the soil, and is washed into the subsoil and lost. You will, therefore, deplete your soil of lime by using the muriate. The sulphate does not form any compound with the soluble lime.

MR. FENN: Do you think the sulphate will last longer?

MR. DREW: I would not say that, but I think it is in better form. I think it is generally admitted that the sulphate will give a better product than muriate, especially on potatoes. I think it is just the same with apples. What is the use of putting on muriate of potash if that is going to help deplete your soil of lime?

MR. FANTON: Do you think there is any economy in using a low grade of sulphate of potash?

MR. DREW: I think that next to the high grade sulphate of potash I would use the low grade sulphate of potash for orchard purposes. I know many people think the low grade, because it contains magnesia, preferable to the high grade. I do not think that a person can make a mistake in using either one. I should use it in one or the other form.

MR. FANTON: How many pounds of the basic slag do you use?

MR. DREW: When I started out I used to put on about five hundred pounds to the acre spread broadcast. After the trees were in good shape, I have been practicing putting on about three or four hundred pounds to the acre. That

should be broadcasted. In applying fertilizers you would not think it was necessary to emphasize the fact of broadcasting them. You will still find many intelligent fruit growers putting the fertilizers close up to or around the trunks of the trees. I think in an old orchard where the trees are situated anywhere from thirty to thirty-five and forty feet apart, no man can make a mistake by covering the entire surface with the fertilizer. The trees will get it all in time.

QUESTION: How early in the season do you plow?

MR. DREW: Just as early as I can.

QUESTION: About this time?

MR. DREW: No, I should put it off a little later. I should plow it through very early in the spring.

MR. BUELL: I would like to ask the speaker how much wood it is safe to cut off a tree where you are trimming an old orchard,—how large a limb?

MR. DREW: Well, I have cut off some that were quite large, some over eight inches in diameter. On some trees I have cut off forty feet of the top of an apple tree, and I have got some of those trees to-day that are doing well. That is pretty radical treatment, and it would not be necessary except in those trees over forty or fifty years old, which run up pretty well. Where people have gone to work and kept encouraging the trees to go away up in the air you have got to do something of that kind. At the present time you cannot afford to have those trees away up in the air where you have got to use a ladder twenty-five to thirty feet long to get up to them. I do not like a high-headed tree. I believe in keeping them down, but on these old trees it is very hard to give a general rule. What I do may not be applicable to the needs of some other man. There are many trees where you can benefit them by simply cutting out the main branches in the center of the tree, and then heading in the branches more on the side, so that you can get them down. As I said in

my talk, it may not do to do it all at once. The treatment may be too severe if you apply it all the first time you cut. In those cases I cut off a half, and then the next year cut down the balance.

MR. COOK: I would like to inquire how you saw those larger limbs off. Do you saw them straight across, or do you cut them slanting?

MR. DREW: That is a point well taken. When I first started out to cut trees back so severely many of the cuts were almost horizontally made. You will find that if they are cut that way decay will very often quickly set in. In all cases where I am cutting like that I try to cut slanting. In my experience, I have found that the wood heals over much quicker. Nature seems to assert itself to protect the trees much quicker. The first year of the growth the tar or paint that you put on will not set in quite so well as it will the second year. Be very careful the second year to give it a very thorough coating.

MR. COOK: Of course, many people would think that that was a very radical way of cutting back these old limbs so that they will start out such a mass of water sprouts.

MR. DREW: It is radical, but I think some of these old trees require radical treatment. Where these sprouts start up they should be thinned out. I think in time, in the first or second year, it will pay to head those suckers in. I think you will find if you head them in that you will get a better growth and get better faint spurs than if you allow them to grow and take their own course.

MR. COOK: Would not that apply to a pear tree just as well as to an apple tree?

MR. DREW: I think so.

QUESTION: What do you mean by heading them in?

MR. DREW: Simply cutting them back so that the tree will form fruit wood rather than keep on forming this sappy growth.





FALL PIPPIN TREE.  
Showing Good Results After Renovation Treatment.



BALDWIN APPLE TREE HEADED DOWN.  
Was Cut Back Severely Four Years Before.



MR. SMITH: I would like to ask you if you have made any comparison between the yield prior to this treatment which you have described and after the treatment of these trees?

MR. DREW: I could not give you definite figures, but I can say this much. I have one orchard of about two hundred trees. For three years I had a chance to observe them before I had a chance to get at them. I suppose on those two hundred trees we were getting an average yield of from thirty to forty barrels. Since the treatment was completed, those same trees have yielded between five and seven hundred barrels. That is the difference. The orchard was badly infested with the scale, but possibly the trouble was not entirely with the scale. This orchard was on a piece of woodland, and it had been entirely neglected. As I said, at that time it was yielding from thirty to forty barrels, but now it is giving between five and seven hundred barrels.

MR. GOLD: Would you practice trimming the trees of these water sprouts during the first summer?

MR. DREW: I would thin them out the first summer, and you will probably not take out enough even then.

MR. GOLD: You think you can save a lot of time by taking them out the first summer?

MR. DREW: I think often times the tendency is not to practice summer pruning. In fact, if I was reclaiming an old orchard, I would not hesitate to do considerable pruning even then.

MR. FENN: Did you drain that piece of wet land?

MR. DREW: Yes sir, I did. Put in a good tile drain there.

MR. FENN: What method did you use?

MR. DREW: Simply put in a tile drain in the wettest places.

QUESTION: Can you say a little more in regard to this last spraying mixture that you spoke of?

MR. DREW: I think to-morrow you will hear something so much better than anything I can say about that that it is not much use for me to speak on that subject. I would say that Bordeaux has been somewhat unsatisfactory with us. We used it at the rate of about six pounds of lime to three of copper sulphate, using the copper sulphate as little as possible. We tried all sorts of experiments with it. It did not help out a particle. And then we used "Sulfocide" at the ratio of one to seventy-five, and we used the commercial lime and sulphur mixture in the way it was recommended. And in both cases we took practically all the foliage off the tree. We began to experiment and found that the "Sulfocide" made up at a proportion of about one to one hundred and fifty, and the lime and sulphur, one to seventy-five, was better. We found that the foliage sprayed with the Bordeaux was, if anything, better when sprayed with the other mixture also. If it was not for the rusting of the fruit, there is nothing that would beat it. (Bordeaux mixture).

QUESTION: Do you believe that by using less copper you can avoid that?

MR. DREW: No, I do not think so. We are near the salt water. I do not know whether that can make any difference, but it rusted our Greenings and our Baldwins in terrible shape. Possibly a great many people would take exception to this statement, but I have been trying to see if I could not get along with one spraying. I tried that last year, and I would say that where we gave one thorough spraying just as soon as the blossoms fell we had just as good results as where we sprayed even twice and often three times.

MR. FENN: What spray did you use that time?

MR. DREW: Bordeaux and arsenate of lead.

QUESTION: I would like to ask if Thomas phosphate (basic slag) in your opinion, is what they claim it to be?

MR. DREW: While I am not here to advertise any particular product, I think it is a good thing. I think the Experiment Stations would tell you that it is a good thing. Of course, Thomas phosphate powder will analyze a large proportion of lime, and I think about seventeen to nineteen per cent of phosphoric acid. That is valuable. Some people raise the question whether the benefit of the slag was not entirely for the lime which it contains. I have used it for four or five years. For the first two or three years I did not say anything one way or the other, but after having tried it out pretty well I am thoroughly convinced myself that it is a good thing, not only for the phosphoric acid and the lime which it has, but I think it exerts a beneficial influence on the formation of fruit buds. Wherever I have used it, I have had my trees just loaded with fruit buds, and that applies not only to peaches, but to apples.

QUESTION: I would like to ask you how you think it might work in the case of a great many orchards that are growing in the sod,—whether you think the basic slag would be as effective.

MR. DREW: I do not see any reason why it would not.

QUESTION: I have seen it stated somewhere that it would not be so effective as when cultivated in.

MR. DREW: I do not see any reason why it should not be so. I do not see any reason why it should not work just as vigorously that way as it should where it is in cultivation.

QUESTION: Do you have any trouble where you cut back those trees, where you cut so heavily that you thin out those suckers after the first summer?

MR. DREW: If I get your question, there is a little. I have had but little trouble, though. I have got some trees down in Greenwich where I have cut back to four or five feet from the main stumps, and I have got some nice heads started. Quite a number of the people here in the audience have seen them. Those trees had but very little trouble on



account of this dehorning, but I was very much afraid I might have when I started.

A MEMBER: I have been greatly interested in the statement of the speaker, and I was particularly interested in his method of treatment in renovating these old orchards. But when he says from an orchard that was formerly giving from thirty to forty barrels, by this treatment it yields an amount of from five to six hundred barrels, I would like to know how long it took to do that.

MR. DREW: I would say from three to four years on the average.

QUESTION: About the quality of those apples. Are these apples here from any of the old renovated trees?

MR. DREW: They are all from them. While I have a great many newer orchards started, I have none in bearing. I would say that these specimens were not saved or picked out with the idea of being exhibited, but these are only ordinary ones of what we had. In this old orchard of about two hundred trees were a great many varieties, such as you ordinarily find on a New England farm—Baldwins, Greenings, Northern Spies, Kings, Fall Pippins, etc. When I started in to reclaim that orchard some of the people in that section said it was impossible to grow Northern Spies in that section, and they pointed to the poor, gnarled, mis-shapen fruit which the orchard was producing. When I started in that fruit was all gnarled and mis-shapen, and had hard cores in it. We could not sell it for second grade fruit. By spraying, pruning and fertilizing, we finally got those trees down so that we got them to bearing in good shape. We got our Kings to bearing in very good shape, also our Fall Pippins, and the Northern Spies came along a little later. After we started out to cultivate and prune and spray, we had no trouble with the Northern Spies, not a particle. We had no more trouble with raising good Northern Spies than we did with Baldwins. I do not know why people have got

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PICKING THE FRUIT ON A LOW-DOWN APPLE TREE.  
Top Has Been Headed Back Severely.



PACKING APPLES IN CONYERS FARM ORCHARDS.  
This Superb Fruit is the Result of Mr. Drew's Renovation Treatment.



the impression that it is impossible to raise Northern Spies in that section. You can do it just as well as you can raise any of the other varieties.

MR. FENN: Another question. Did you do any topping work? Did you do any regrafting of other varieties on those old stumps?

MR. DREW: No sir, in all cases we kept the same varieties.

MR. FENN: Suppose you wanted to. Do you think it is advisable to set six or eight different kinds in the top of an old tree? Do you think it is advisable to set six or eight scions in?

MR. DREW: I never saw it done. I should think it would be much better if you could use the original. I should think it would be pretty poor policy to try to graft those stubs where they were so wide across.

QUESTION: Take the natural growth under your treatment. If these branches are pruned up, say, ten or twenty feet from the ground, do you think that you would get the growth?

MR. DREW: Well, I do not know as I understand your question. You say twenty feet from the ground when you start? You mean the branches starting out being twenty feet before you start to prune?

QUESTION: I say ten feet. What I want to know is this, if you would get the growth from those water sprouts before heading.

MR. DREW: The tendency of these water sprouts is to grow upright, and you will leave that until they begin to fruit a little, then the tendency is to spread them out.

MR. STERLING: Do you advocate scraping the old trees?

MR. DREW: No sir, I do not. I would rather clean them off with lime and sulphur.

QUESTION: Do you use lime and sulphur one to five? Was that the proportion?

MR. DREW: I would not give any proportion, because, as I said, we have been experimenting for strength. We tried it first one and one-half to fifty, and we damaged our foliage.

QUESTION: That was the chemical solution that you prepared yourself?

MR. DREW: That was a prepared solution of lime and sulphur, and then I think we got it down to one to seventy-five, but that proportion I would not say is just right, because that is something that we are going to experiment with further.

QUESTION: Did the mixture of one to seventy-five give you any damage?

MR. DREW: No sir.

MR. J. H. HALE: Mr. President, I just want to take a moment to emphasize the importance of this address that we have had by Mr. Drew. I am suffering from an illness, but it seems to me that I ought to take a moment of your time to emphasize the more important points of this address to the pomological industry of this state. It seems to me that the subject that we have had so ably laid before us this afternoon is one of the most important that has come before us in years. I visited Mr. Drew's place in Greenwich, and I want to say that although those are beautiful apples that he is showing us, they were grown in a very unfavorable apple location; one of the poorest locations in the state for producing good apples. Therefore, it emphasizes the results all the more strongly which he has secured.

If you will pardon me for a few moments to discuss that question a little in detail. There were several farms along on the highway in the southern part of the state leading to the farm occupied by Mr. Drew. I drove down

there, and went up this main highway towards Mr. Drew's place. I saw on one side of the road where Mr. Drew had been at work, and over on the other side where an old-time orchard was still in existence, and got some idea of the possibilities of fruit culture in Connecticut. I wish you all could take that trip and get the same impression I did. Just to see the marvelous transformation that has been wrought, not only in the appearance of those orchards, but in their bearing capacity. Just to see what they yielded before they were cared for and what afterwards. I think he said that on one orchard of about two hundred trees where they were getting thirty to forty barrels a year he can get now from five to seven hundred barrels. It is a wondrous story. It is a wonderful lesson to the pomologists of this state of what can be done. You can go right up that highway and ask these people that have got some of the old-time orchards there, and you may be able to see a few bushels of respectable looking apples. Then, on the other hand, if you went to those trees that have been receiving some care, the same as the ordinary farmer usually gives, and while you might see some fair looking apples, you would not begin to see anything like the splendid exhibit that we have seen here from Mr. Drew's renovated orchard. By taking those old trees and cutting off the tops, cutting out all the dead wood, spraying and cultivating, by means of intelligent pruning, this gentleman in three years has produced this marvelous result. I tell you it is one of the greatest object lessons that has been put before the farmers of this state in some time.

If that same work was carried on all over this state, is there anybody who is not a relation of Col. Sellers but what can easily figure up what that would mean to the state of Connecticut? How many thousands of farms there are which produce a few inferior apples, on which, if this same method was applied to them, could be made to pay handsomely. How many farmers there are who

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claim that apple raising does not pay? And yet this gentleman has come in here and told you how he has produced these surprising results on some of the poorest apple land in the state of Connecticut. I want you here to listen, and to carry home with you and ponder this story which Brother Drew has given us to-day. It would be worth ten thousand times what the Pomological Society has cost from its beginning to the present hour if it would result in simply waking up the farmers of this state to what they can do with some of these old orchards. (Applause).

PRESIDENT GOLD: Our program this afternoon calls next for an address on "The Methods of a Prize-winning Massachusetts Apple Grower." I would state to the members that this gentleman who is now to address us raised the best barrel of apples, which won the \$100 sweepstakes prize at the New England Apple Show in Boston. He raised a barrel of the handsomest apples I think any man ever saw, either here or anywhere else in the United States. A barrel of McIntosh Red apples, which for uniformity of size, quality and color, and in all other particulars, were the best I ever saw. I am sure he can give you some good points. I have the pleasure of introducing Mr. George S. Knapp, of Groton, Massachusetts.

## Methods of a Prize-Winning Massachusetts Apple Grower.

By GEO. S. KNAPP, Groton, Mass.

Mr. Chairman and Gentlemen: It is certainly a privilege to meet a gathering like this and to hear the speakers and listen to your discussions. For several years I have heard what a large Pomological Society you had in this state, and have heard something of your enthusiastic meetings, and have often thought that some time I would like

to meet with you. After visiting this fruit show, to which your President has referred, and seeing the Connecticut apple growers take hold of the work there, and the general exhibit from the state, I felt still more anxious to meet you. I wish to say right here, to such Connecticut people as may be in this audience and did not attend that show in Boston, that you need not worry about the way that your state was represented. It did its part, I assure you, to make that grand exhibition a success. Now, as you have been told, I had some apples in that exhibition, and, as perhaps you can surmise, I suspect that this is one of the reasons why I have been asked to come here, to talk to you and tell you of some of the methods that I practice in raising apples. But you all know that raising apples and coming here and addressing you and attempting to tell you how it is done are altogether different propositions.

When I first considered whether or not it would be best for me to take any of your time in telling you my story, I had some misgivings, feeling that you might expect to hear of some new practice which would differ from those usually recommended or known by apple growers, and, that failing to meet such an expectation, no effort of mine would be worth while. At this point, not wishing to disappoint any good fellows interested in fruit growing, I looked at the matter in this way. If any of my ways of treating an orchard, although well known and generally advised, should meet with the approval of those who are recognized authority, then my words will add more force, and help to convince or confirm what others have advised. On the other hand, should few or none of the things which I do seem correct, then the good you are to get must come from the fact that as I raised and exhibited very good fruit without the best means, then certainly great possibilities are just before him who conducts his orchard on better principles. So, from this view-point, I hope one

way or the other to contribute something to the success of your very interesting meeting.

I wish to say that I feel quite at home with you, as we have a common interest in such an honorable and important business as fruit growing. Honorable, because one's success must come through intelligent effort, and our gain is no one's loss, but every dollar represented in the products of an orchard or farm is a dollar added not only to the wealth of the producer, but is a dollar added to the wealth of his state, and becomes an asset of the world at large.

Fruit growing is also important because the production of fruit not only is a means of supporting the producer, but is at the same time the means of bringing something into existence which will be a factor in trade, and a commodity for transportation, and what is still more important, and can well be appreciated at the present time, is the means of bringing the producer into partnership with nature, and therefore bringing forth something which is at once a luxury and a healthful article of food, supplying one of the necessities of man.

Although our work may be hard and exacting, insects numerous, and seasons bad, still there are many things that are pleasant.

But I must go at the task set for me, and explain how I raise my apples.

I wish to say right here that if I were to begin anew some things I would do differently from what I have done in the past.

Let us begin with planting young trees. We should procure as good ones as possible and give them room. Good land should be selected, fairly well elevated, and of slope sufficient to be well drained. The soil should be cultivated and fertilized the year before the trees are set. The ground should be freshly and well worked just before trees are planted. Hoed crops can then be put in, but do

not crowd the trees, see that they are hoed thoroughly and often, as it is very hard to rid them of grass if it is once allowed to grow, and the cultivation that is of most benefit during the first few years is that given the ground directly around the little trees.

When trees get large and are standing in sod, they should not be crowded by a team, nor is it necessary to turn all the sod close to the butts. It would be better to leave a strip four, eight, or even twelve feet wide, if necessary, along the rows. If the intermediate space is well fertilized and cultivated, the trees will grow all right, and their lower branches will not be injured nor their roots cut too close to the stump. The top furrow above the trees which is turned on to the sod can be pulled into the open furrow below, so as to keep the ground level. This little strip of grass sometimes prevents washing of the land or the cutting of a channel across the field in low places.

But to get back to the little trees; keep them thoroughly cultivated four, five, or six years, and they will make more growth than they would in fifteen years if they had to rough it in sod with nothing done for them, providing the ground is enriched each year with a good dressing of stable manure or fifteen or twenty barrels of hen manure per acre. When the trees come into bearing, add ten to fifteen barrels of wood ashes per acre.

Now as to trimming: Although this is important, do not think that because some trimming is good, much is necessarily better. This is something I always like to do, although some would think that I do not do it right, but I would rather my growing trees would not be trimmed at all than to have them done the way some would do it who make something of a business of it. To begin with, a little tree usually needs to be cut back in its leading shoots, and its form established by its first main branches. No two trees will grow just alike. No

two will need the same cutting, and no two men would treat any number precisely the same. It is desirable to have them branch low, have a symmetrical spreading head, with no crotch to split down as the tree gets older, and is burdened with fruit or other weight.

I do not fully agree with one man who said, in establishing a good orchard, that he wanted long-waisted trees. Long waists may be all right for young ladies, but for young apple trees I would prefer those with short trunks, and would so train their growth as to keep them low, with spreading heads, as it seems more important to have them within easy reach when spraying and thinning or picking fruit, than it does to grow them tall to facilitate working all the ground under them with a team.

It is a pleasure to watch the growth of a young orchard when well looked after, and an acre of land set to good varieties of apples, which are doing well, is increasing in value very fast.

For the last three years I have sprayed my young trees in April, while dormant, with home-made lime-sulphur. This is a hard, dirty job, but it helps keep the bark clean and smooth on the branches, and seems to make the fruit have a brighter and cleaner appearance.

I was asked to bring a few samples of the fruit I raised, and I did so. There is nothing especially attractive in the lot, but these specimens I think have some good points. I think they have more of a waxy appearance where the lime and sulphur is used than not. Some do not like it, and perhaps something else will come along to take its place, but that is what I tried. I will be glad to pass these around to any one who would like to look at them.

In some cases the lime-sulphur spraying has rid my trees of scale; in other cases it has not proved entirely satisfactory. I have never had but a little San José scale, but hoped to kill the scurvy scale and bark lice, also eggs of



the aphid, by using this spray, which sometimes is more effectual than at other times. For the chewing insects I have used several brands of proprietary mixtures, and also the straight arsenate of lead, and have always had good results.

I now intend, just as the fruit buds begin to show color, to spray with arsenate of lead and Bordeaux, or something of that nature, just after the blossoms fall, with the arsenate of lead, and a third spraying is given as opportunity is afforded while the calyx is open.

I have been many times convinced that it pays to spray. Those very McIntosh trees which bore the apples that won the Grand Sweepstakes prize at the New England Fruit Show, for the best barrel of apples in the show, had their fruit so injured by insects five years ago that much of it was unfit to market, and the best of it was very commonplace, while last fall it was nearly all first-class in every way. I should add, however, that these trees were sprayed very heavily three times a year for three years, as they were nice young trees, and I found their fruit valuable. I did all I could for them.

I would say in conclusion that I would trim often, cutting back the leading shoots on the young trees, always cutting smoothly and close, and parallel with the branch or trunk that is left. Use a fine-toothed saw for young trees. Be careful not to skin down the bark at the bottom of the cut. Paint the wounds which are an inch or more in diameter on all valuable trees. Take out all dead wood, suckers, sprouts, and such crossed branches as are crowding, and take out as much more as a few years of practice and experience will justify, but do not overdo in any case until you have done what is advised to all your trees; then, if you are sure it will be best, do a little more.

By all means, spray when blossoms fall with arsenate of lead, and do not expect good apples or profit without spraying.

After having planted your orchard, trimmed and sprayed your trees, if you have a crop of apples, pick them carefully from the trees, grade and pack them wisely (which means honestly and well) in clean, wholesome packages, to suit your trade, and mark them so that when your purchaser or receiver gets used to your brands and marks, he can tell exactly what each package contains without opening it, or so that the next customer, when shown one package, can be guaranteed others marked the same will be just as good. Such packing of good fruit will make a ready sale above usual prices.

To be modest, and keep within safe bounds, we of New England can say that when we choose our best varieties, and grow them under favorable conditions, with proper care, we can probably produce apples which cannot be excelled in quality, and, when well graded and packed, will be accepted by the best trade in our cities at prices usually quite satisfactory.

Perhaps the degree of success one can attain may depend somewhat on his love for his work, his willingness to work, and the amount of work he can do. Sometimes when asked how such fruit can be grown, I have answered, "One must love his trees," which, to many, means but little, as it seems to them that a tree, not being a sentimental thing, does not respond to sentiment. But have you not often noticed that old ladies, who seem quite sentimental over their flowers, usually get the best results from them; and so may not the proposition be explained from the fact that the man who loves his trees and his work will be more thoughtful of them, more watchful, always anticipating their needs, and ever ready to protect them from harm? With my favorite trees this is my method.

PRESIDENT GOLD: Mr. Knapp is here, and we are going to ask him some questions.

## DISCUSSION.

MR. IVES: I noticed that Mr. Knapp did not say anything about the use of Bordeaux mixture. I would like to know what his opinion of Bordeaux is.

MR. KNAPP: I have used a Bordeaux mixture, and have used a mixture which was supposed to contain something which practically took the place of Bordeaux. I have not made the regular Bordeaux, and so I am sorry that I cannot give you any results from personal experience in that way.

MR. IVES: He did not say anything about fertilizer.

MR. KNAPP: I left that out, too. I believe I did say that I had not tried different kinds of fertilizers enough to give you any very well considered opinion. My methods of fertilization have been something like the old doctor did for his patients. When he had a little medicine left in a bottle that he did not know exactly what to do with, but did not want to waste, he would turn it into a large bottle, and when he had a patient that he did not know what was the matter with him, he would give him some medicine out of that bottle. If he happened to get well, I suppose he would say it was the medicine that did it. Now I am sorry to say that that is about the fix that I have been in. The fertilizers that I have used have worked out pretty well, but it has not been applied with very much idea of what it was or according to any system. I have used stable manure, which I can say makes the trees grow very nicely. If you put that on, a fairly good dressing of it, it does very well. I have also used hen manure. We usually have a quantity of it, and I think that usually helps to increase the product, and gives a good color.

QUESTION: Do you use any Canada hard wood ashes?

MR. KNAPP: No sir. I would rather get them nearer home if I can.

QUESTION: How do you trim your trees?

MR. KNAPP: Well, as to trimming, with most people that should be done with a sharp saw. Undoubtedly, some can do that a little better than others, and I think it is better to do it most any time rather than not at all. I do not know of any particular advantage in time, except that I think it is best to do some trimming in the spring, a short time before they begin to grow.

QUESTION: Is it your opinion that the larger limbs should be cut at any particular time?

MR. KNAPP: Well, I think it is well to cut them early.

MR. COOK: I have been told that it was a good plan to cut them in June, that then they would heal over quickly.

MR. KNAPP: If that is the truth, there is probably a reason for it, and we are coming to the time when we want to know the reason for everything that we do.

QUESTION: Do you have any special time when you do your trimming?

MR. KNAPP: I was going to talk about that a little more fully. There are some times when it is a little better to trim than others. But, as I said before, it is better to do it most any time than not at all. I do not know of any advantage except as you trim in the spring a short time before the trees begin to grow, when the wound does not have as long a time to dry up, before it begins to grow over. I know with some of the trimming on the ends of the branches it may have a different effect from that. I confess my ignorance about some of the things that are said about trimming. If there is any advantage in cutting off a branch the size of one of these apples, I confess I do not know what it is, except you cut it off before it begins the growth, and I think in that case it would be bet-

ter to cut it in April rather than in June or July, but if you paint the wound, so as to prevent weakening the tree, I do not see that there would be very much difference in cutting it off in December or April. If there is anybody here that differs from that, I would like to hear from them. In all probability there is.

There is one thing I would like to know. Take a tree that we will say is about as large as one of these flower pots on the stage, a half-grown tree; now we have all heard that it is a good thing to cut off some of the roots, and I have heard some people say that it was a good thing to plow back pretty well toward the tree in cultivating. Now I cannot see any advantage in that. We all know if we cut up close to the butt of a tree, you are very apt to cut or injure some of the roots, and that would do harm. I would like to know how long it continues to be a benefit to approach that tree with the plow and cut those roots,—when it ceases to be a benefit and becomes harm? If anyone can answer that question, and tell the reason, I should like to know it. My idea of it is that it does not do the tree any good to cut the roots within a few feet of it, or to cut them off by going along close up to the tree. I do not doubt that there is some benefit in cutting them back a little, but the question in my mind is how near to approach, how near it can be done with safety, and when it ceases to be a benefit and becomes an injury. That is what I cannot determine.

MR. IVES: Do you cultivate your trees right along?

MR. KNAPP: Certainly I cultivate. Especially the young trees; but I think after they get into really thriving condition, and the ground is sodded down, to some extent around them, one gets fully as much advantage by letting them alone and not disturbing them too much by too close cultivating. However, if you let them alone, very soon there comes a time when something must be done, either the grass must be cut and left on the ground, or



the ground must be plowed, but, as I said before, I do not believe in plowing too close up.

QUESTION: What was your method of cultivation around those McIntosh trees?

MR. KNAPP: Well, those McIntosh trees, on which I raised those prize apples, stand in a favorable place, on better soil than some of my other trees. They stand in a little valley. My land has got a number of little knolls and rises of the ground in it, and they stand in a sort of a little valley, where they are shielded from the winds and cold, to some extent. I spread about them a good deal of fertilizer, and ashes, to help them along. The hens run around there, scratch and dig. The ground is full of "fish-worms," and they work around underneath, so that under some of these trees there is not much grass growing.

QUESTION: What sort of soil is it? Is it clay or sandy soil?

MR. KNAPP: Well, it is what you might call a clayey loam. It is very uneven ground. My orchard is not set out as perhaps some of you imagine. You dig a hole for one tree here, and go along and dig another. Some of the soil is several feet deep, good yellow clay subsoil, and then you go along a little ways further, and it is darker. It changes in color as you go up toward the top of these elevations or knolls. You may have got the idea that my orchard is a large expanse of fine sloping trees, all in perfect alignment, but that it not so. Some of the trees were set before I had the place. Some of them had been set out in a disorderly way, some of them are too thick together, and some have plenty of room. So you can see as to the matter of being in perfect order, that is the case.

I have done the best I could with it, and, on the whole, my orchard looks pretty well. Some of those who have visited the orchard—and they have come there from

all over New England—have told me that it was a very pretty little orchard.

QUESTION: Do you find any difference in the growth of your trees on account of that condition in the soil?

MR. KNAPP: I think that the trees grow best in that yellow soil, in that soft yellow sub-soil. There is some clay mixed in with it. I think the soil in that yellow deep sub-soil seems to be well adapted to the trees. It is not exactly sand. I do not know what term I would apply to it.

A MEMBER: If you plow, I should think you would be apt to cut off a good many roots, if you plowed too deep, but wouldn't you get some benefit by running through with a Cutaway harrow?

MR. KNAPP: I think when I get them growing in good shape, it is better to run through with the harrow. I think sometimes, with old trees, it does good to have roots off at a proper distance, but I cannot realize how it will do good year after year to run a plow down through there. The roots run pretty near the top of the ground, and you cannot cut into the ground very deep without injuring a great many of them. You go down among the trees, especially the older trees, those six or eight years old, and if you get anywhere near the tree you begin to cut off the roots very near the tree. Some of them you cannot get under to good advantage anyway. I keep away from them. If I get up too close I find I am cutting off a number of little feeding roots, and I believe that holds true every time.

MR. IVES: Do I understand the speaker, that he uses simply lime and sulphur in spraying?

MR. KNAPP: I use the lime and sulphur in April. That is, enough to keep the bark smooth. The first year I only sprayed a few individual trees where I thought they needed it.

QUESTION: You do not use the Bordeaux mixture?

MR. KNAPP: I never have made what you call Bordeaux. I have used a preparation that is something in the nature of Bordeaux, and which is supposed to take the place of Bordeaux. I have found it has worked very well.

QUESTION: Have you had any rusting of your fruit?

MR. KNAPP: I have had a little. Had it a little last year. I would like to know if there is anyone here present that is sure that this rusting of the fruit is confined wholly to orchards where they are using the Bordeaux or whether it was shown on fruit in other orchards where Bordeaux was not used?

MR. FENN: As to that I would say about a year ago I had the pleasure of entertaining Mr. Frost of Arlington at my home. I took him out in my orchard and showed him my conditions. He advised me not to use any Bordeaux, but to use arsenate of lead, which I did. The consequence was I had very little, if any, rust. I do not think I had over two per cent of wormy fruit. I sprayed thoroughly and heavily. I think from now on I shall not use any more Bordeaux, because *it does rust the fruit*. Mr. Drew says he thinks it is worse in a wet season than in a dry one, but I do not think there is very much difference.

QUESTION: Does the McIntosh variety, with you, drop its fruit prematurely?

MR. KNAPP: I thought last July that my McIntosh trees were going back on me. It seemed as if all the fruit was going to drop off, and I felt pretty badly about it. It was a fairly good season, and I could not understand it. As the season advanced, however, I found that the branches had all the apples left on them that they ought to have, and they were very much larger and nicer.

On a piece adjoining mine a neighbor had some seventy-five McIntosh trees. I do not know just what he does for them, or what he fails to do. He tells me that he does not get much fruit from them, that it nearly all drops off. I think that they need to have some other trees planted with them. My trees bear some every year. I have one or two trees that have been bearing more and more right along, and have been doing that for the last three or four years.

QUESTION: How would it do to turn the pigs into the orchard and let them do the cultivating?

MR. KNAPP: That might do very well.

PRESIDENT GOLD: I think hogs in the orchards are generally recognized as a good thing, although a little care has got to be taken, because they are apt to get in the habit of barking the trees. Then again, they will not touch them at all. It is a matter which you must guard against. If they get in the habit of attacking the trees, they will girdle them sometimes all the way around.

MR. STEVENS: We concluded on our place that we got a good deal of benefit by letting the hogs run in the orchard, from the fact that you will not have nearly so many railroad worms in the orchard if the hogs are running through it. That has been our experience. We have one orchard that we had not cultivated at all, and we are not troubled with the worms. Right across the road from us is an orchard which has been badly infested.

PRESIDENT GOLD: I think Mr. Stevens' remarks are well taken. No doubt hogs go a long distance towards destroying the maggot or railroad worms.

A MEMBER: I would like to ask what you feed the hogs to keep them from barking the trees?

PRESIDENT GOLD: It is a very difficult thing indeed to keep them from doing it when they once get started.

Occasionally they will get to doing it, and then again, we will have no trouble whatever. I think they are inclined to bark the trees when they are, to an extent, a little out of condition. I think if you give them a little charcoal and ashes and some salt, so as to get their system in good condition, they will not be so inclined to bark the trees. After the hogs have been in any length of time, if they bother me about barking the trees, it is perhaps a good plan to give them a reasonable amount of green stuff in the orchard. I do not want to feed them too much, because I want to have them root and to get all the food they can from the clover roots and stuff in the soil.

If you have any further questions, or any remarks that you would like to bring before the meeting, there is now an opportunity. If there is any question on the printed list which you would like to have answered at this time, we will take it up.

#### DISCUSSION OF THE QUESTION LIST.

MR. SMITH: Number 25.

PRESIDENT GOLD: Question 25 is called for. "Why don't we attempt to grow more pears in this state?"

MR. GEO. W. SMITH: Mr. President, I would like to say a word on that, although I hardly feel that I am much of an authority on the subject. I will, nevertheless, tell you what I think. Pears have gone a little into decay in New England, yet there is no part of the country that is better adapted to growing pears than New England. Probably the reason of this decline is largely due to the increased facilities for getting fruit here from other places that has taken the place of the pear. Furthermore, for the last few years, the San José scale has cleaned out the pear trees pretty thoroughly. Nevertheless, every man that has a love for fruit culture knows there is nothing more delicious than a nice pear. When I eat a winter pear in February, I am very thankful to God for creating

the pear, and I know that they can be kept even into May. People have them sometimes for eight months in the year. They can do it if they choose. All there is to it, they do not choose to. They are not in love enough with the pear to grow the varieties that will do well in this climate.

One of the famous nurserymen of the country at the Chicago Exhibition in 1893, showed a large number of varieties that had been kept until very late in the season without artificial storage. Fourteen varieties of pears in good condition simply by having a little fruit preservatory above ground where the fruit was kept cold and packed up in such a way as to prevent decay. Pears can be held on for eight months in the year if they are properly taken care of. For my part, I cannot see why they should not be raised on a much larger scale in New England, and with good profit to the producer. Pears brought ten dollars a barrel the first week in November, at wholesale, in Boston. California sends carloads of delicious pears to the New York market every year, and we can produce just as good pears in Connecticut as they can in California, and a little better in some respects. We have got a good climate for pears, and we have very little of the fire blight that destroys the pear in the south and southwest. That has gotten into the California orchards, and has made very much trouble there. There is no reason why we should not have pears, except that people do not want them enough to plant them. I hope to plant some pear orchards very soon. I have done some little of it in the past, raised quite a few of them, and I am satisfied that anybody that loves the fruit can get good results if they are well taken care of. I hope the time is not far distant when we will come into our annual meeting and see some long tables covered with a fine exhibition of pears. There is no reason at all why this splendid fruit should be allowed to go into decay in New England. We have got to spray them and protect them from the San Jose scale, which is now destroying the pear trees all through this region. But in spite of that, pears will continue to be grown just as long as



there are men left that love the fruit and know how to grow it. There is always a market for all you can raise that is in good marketable condition, but it takes a man who loves pears especially to raise them on a commercial scale.

I have about seventy-five varieties in my private grounds. I love the pear and I like to see them growing. I think the Connecticut Pomological Society can do more than it has done in the past by trying to get people to plant pear orchards here Connecticut. There are some varieties, of course, that amount to nothing; that you could not send to market and get fifty cents a bushel for. That is not the kind to plant. Plant the kinds that you know have an established market. You go right out here today through the streets of Hartford, and you will see pears from California selling for a price so high that you can hardly afford to buy them. We can raise those pears right here in Connecticut, and have those pears in our cellars, if we want them badly enough to plant them and take care of them.

PRESIDENT GOLD: What Mr. Smith has said is largely true. He has left out one item though—that the trees left to take care of themselves are very apt to suffer with the pear blight, and that has always caused a great deal of trouble.

A MEMBER: I do not agree with what the gentleman says in all respects, Mr. President. There is just as much reason why we cannot grow pears in Connecticut as there is why we cannot grow prunes. We cannot do it. I do not think the climate and soil is adapted to growing pears here as it is in California and that section. God Almighty made some parts of this country better adapted to certain fruits than others. He made some of it different from other sections, and that is why Connecticut can never do very much with pear culture. I think it is a good deal so in California. That soil is different from ours, and the climate is different, it is better adapted to growing that kind of fruit.

PRESIDENT GOLD: There is no doubt that the California soil is well adapted to pear culture, and it is up to us to do the best we can on our soil. Those who were in Boston saw some

remarkably handsome pears, just as handsome as any California fruit, and certainly better quality. For quality we are ahead. Connecticut has grown a great many pears, and I am sorry to see there are so few of them grown at the present day. I think there is an opportunity to make them profitable.

A MEMBER: Mr. Chairman, can we have Question No. 5?

PRESIDENT GOLD: Question 5 is called for. "Can apple orchards be profitably grown on land too stony to plow?" We would like to have a reply to that question from some of those who have tried to plant apple orchards on that kind of ground. Mr. J. H. Hale is notoriously cited as having raised some good apple orchards on pretty stony ground. We would like to have either Mr. Hale or Mr. Coleman tell us how they do it.

MR. J. H. HALE: Mr. President, we failed to find any land that was too stony to plow. At one of our Grange meetings there was a fellow who said, after he had eaten eight or nine pieces of pie, that it was not very good pie. I never saw any poor pie, and that is the way it has been with Mr. Coleman and me about apple lands. Mr. Coleman and I have been up against some pretty rocky land, but we have not seen yet any land that was too rocky to plow. We did have one of our plowmen come in and ask where the soil was that he should plow. (Laughter). I do not know whether there is any land in Connecticut that is too stony to plow or not. Where is the land that this question refers to, Mr. Chairman? I do not know. It is not over on our rock-ribbed farm in Seymour, neither is it on the rocky ledges of Glastonbury. If there is any such land in Connecticut, I would like to know where it is. I think that we can grow apples on most any land that we have got in the state if it has got soil enough so you can plow it and cultivate the trees. You can grow apples there because there are the elements in the soil that give the trees just what they need. There is a lot of land which is so rough that it is useless for most agricultural

purposes, and you can grow apples on it, and some fine ones, too, if you just make up your minds that you are going to do it.

PRESIDENT GOLD: I think Mr. Hale is a little optimistic about the practicability of plowing all of our Connecticut fields. However, they used to plow a good many fields that some of us are a little afraid to tackle now. Mr. Hale has had to purchase, I guess, a good many plows.

A MEMBER: Question 26.

PRESIDENT GOLD: "What is the outlook for one who intends to plant a cherry orchard?" We would like to hear some one answer that question. Mr. J. Norris Barnes, what do you say?

MR. BARNES: Mr. Chairman, I have not had very great experience. There has not been very much inducement for us to set cherry trees. We have had some, and the few that are standing are out of condition and practically unproductive. I am not going to say that it is not possible to raise cherry trees. I think it is. I like the sweet cherry, and I wish there were more of them grown. I am not a sour cherry man. I think the sweet cherry can be raised successfully and profitably.

PRESIDENT GOLD: Do I understand you to say that you think there is a good opportunity to plant sweet cherries?

MR. BARNES: I think there is a good chance on sweet cherries, yes sir. I am not a sour cherry man.

PRESIDENT GOLD: I thought it depended pretty generally on the man who attempted to grow sweet cherries, but the efforts of a good many growers have been rather discouraging. Here in New England, and often in eastern New York state, the growers have pretty generally run up against failure, and the trees have died. For some

reason those who have attempted to grow them have found that the trees would not grow.

A MEMBER: I think that has been the experience pretty generally, Mr. Chairman. I know the matter has been put up to our Station men,—they have been appealed to to correct the evil, or to tell us what the reason was why we could not grow cherries, and they have pretty generally given us to understand that we have got to go without cherries for the present.

PRESIDENT GOLD: Do you agree with that, Mr. Barnes?

MR. BARNES: I think it can be done, Mr. Chairman, but I am willing to admit that we are not doing it at the present time.

PRESIDENT GOLD: No doubt it will give a man a lot of pleasure to raise some fine cherries, if the trees will live long enough after he sets them out to find out what causes them to die. I presume sometime we shall know.

MR. PLATT: Mr. Chairman, I would just say a word on that question. We have some cherry trees that are doing very well. We had a lot of trees that were put in about twenty-five years ago, different varieties, sweet and sour, and in the last five years they have done first rate, bearing, some of them, one or two bushels apiece, and they are getting better every year. Nothing the matter with them at all. We spray them. We find that by spraying the cherries with lime and sulphur, or with the oil that they will do first rate.

MR. J. H. HALE: It is unquestionable, Mr. Chairman, that sweet cherries have practically gone out, or are nearly all going out of New England and in eastern New York at the present time. Those with whom I have discussed the matter in New York state and elsewhere, who have given it careful attention, seem to think that the present

trouble is owing to the stock that the trees are grown on,—that it does not furnish a sufficient root for a long-lived tree. With the experience I have had, if we take the tips of our little seedling trees that we find growing around the country in the fence corners and on the roadsides, and which are strong and vigorous, if we will save those trees and plant them and bud them with sweet varieties we will get a much longer lived tree. There is no question but what there would be a market for all we would grow in a reasonable length of time.

I planted on my home place perhaps fifty trees for family supply, and I believe I have only three living trees, and only one of those is anything respectable. They are magnificent cherries, the tree bearing an abundance of superb fruit.

It is very clear to my mind that there is something wrong with the stock they are on. I believe, with Mr. Smith, that if we really want cherries, and we go at it right, we can get them. If you really want anything in this world you can get it if you go after it.

PRESIDENT GOLD: I have noticed on the roadside often that these native cherries are very thrifty. We have got a good many of them in our vicinity,—these little native sweet cherries that come up as seedlings.

A MEMBER: I believe there are no nicer cherries in the State of Connecticut than some of the Mazzard cherries. Down in Fairfield county, on the shore, we have some very fine cherry trees. Some of them are over fifty years old. I have some that are twenty, and they are thrifty and nice. If we happen to have a time in June when it is foggy, damp weather, we are apt to lose the cherries, but when it is clear and dry we are not apt to lose them. I believe we can grow them here and make them pay well.

MR. VAN BUREN: I am a New York state man, and in the western part of the state they say that to make cherries do well they must be put on the Mazzard stock.

MR. BLACK, of New Jersey: Mr. Chairman, there is no doubt in my mind at all, from a long experience as a nurseryman and fruit grower, that anybody can grow cherries if they grow them on the Mazzard root. This is the whole trouble. Nurserymen found that the stock that they could get in France, was so much cheaper, and the buds would live so much better, and they could furnish the stock so much cheaper to the customers, that they do it entirely upon that stock. The whole trouble with the cherries that you are trying to raise here is because you have not the right root system. If you plant them on the Mazzard roots you can grow them in Connecticut as well as anywhere else.

MR. BARNES: Mr. President, I do not wish to use up too much time, but I think, in line with what has been said here, that if we get the right roots we can raise cherries. Some fifteen or twenty years ago there were a great many of those seedlings came up from the seed about the place where I was, and I grafted those roots. They lived, grew, and yielded fruit on almost every one, showing, I think, that there is nothing the matter with the climate. We are on the right track. We can grow cherries here if we only set ourselves to solving the problem. I think we can grow cherries if we want them.

PRESIDENT GOLD: I like sweet cherries, and I hope that someone will try to grow them.

A MEMBER: About ten or twelve years ago we planted some sweet cherries, and those trees are all in fine condition today. They have made a tremendous growth. They have been sprayed every year with lime and sulphur. We had a good crop on them this year.

MR. G. W. SMITH: I have on my farm two miles from Melrose a black Mazzard cherry tree, the trunk of which is as great in diameter as the box on which those pyramids of apples stand on the stage. It must be fifty years old. People come there in cherry time for miles around to get cherries. I think that tree is an exception in vigorous growth. In the American



Encyclopedia of Horticulture, if my recollection is correct, Mr. Hale was asked to write the article on cherries, and he said, undoubtedly, with great correctness, that the cherry tree is now almost unknown in Connecticut, and he gave as a reason because the tree was attacked with disease. I agree with that, and it shows that we have a lot to learn about cherries. I believe with the gentleman from New Jersey, that we must make a great change as to the stock on which we propagate cherries, and go from the present ones to the Mazzard, if it is any improvement. I trust it will be so. I have some trees on my present home place which I imported from England, about twenty to thirty trees, that are trained in the English method.

That must have been about twelve years ago. I planted those in good soil, and they grew so fast, and stood so thickly that I have had to cut them out. Every one of those trees is doing well. I am not sure what the stock is that they are on, but it has done finely. I pick a great many cherries out of that little orchard, and my family consider, in the winter-time, that there is nothing any more pleasant for them than to be able to go down in the cellar and take out preserved fruit, and with them the cherry takes the first place.

The demand in Connecticut for a good, sweet, marketable cherry is good. I believe that there is a demand, almost, I was going to say, ten times greater than the supply. Why, you cannot carry a basket of nice cherries through the streets and expose them without people offering to buy them. We need to get up and do something with cherries. I wrote around to the experiment stations to get their opinion about planting cherries. Being a little timid about planting them, I wanted to see if they would advise putting them out where they were put on perfectly well adapted soil, and I could not get one of them to say yes. I believe with the gentleman who formerly spoke, that by improving the tree, people who desire cherries enough to plant them in the future can have them right here in Connecticut in plenty.

We need to head them back well, and we need to spray, and we need to check cultivation after a while. Cultivate your young cherry trees, but when they get up to a certain age, my experience is that it is best to check cultivation. I have had some good success, but, I think, as a rule, here that cherry culture is going into decay, and it is on account of people not wanting them bad enough. I believe there is a splendid opportunity for planting cherries. There is a good demand for good fruit. It is shown that the demand for cherries is extraordinary, and we have not kept up with the demand. I am sorry that better effort has not been made to overcome the difficulties in growing cherries, if there are any, and I hope that this Society will do what it can to urge more cherry culture.

PRESIDENT GOLD: The hour for adjournment has come, and we shall have to close this very interesting discussion.

I should like to make an announcement of the following committees. Mr. Wilfred Wheeler of Concord, Mass., and Mr. N. S. Platt of New Haven have been appointed as judges of the fruit exhibit.

I will also announce the Committee on Implement Exhibits: Mr. Rogers of Southington, Mr. Henry of Wallingford, and Mr. Coleman of Seymour. Those gentlemen will get busy and attend to their work down stairs, so they will be ready to report to-morrow.

Now we will take a recess until the banquet this evening, which, as you know, is to be held in Jewell Hall, at 6.30. Those who have not secured their tickets should get them at once, and let us all be on hand promptly at the time set.

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The afternoon session was brought to a close at 4.45, and adjournment was taken.

## Second Annual Banquet of the Society in Jewell Hall.

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### Most Enjoyable Feature of Annual Meeting—Large, Attendance—Distinguished Guests.

For the second time in the history of the Society the evening session of the annual meeting was given up to the enjoyment of a banquet.

Following the great success of the 1909 banquet, and in response to the popular demand, the officers decided on another banquet in connection with the 1910 meeting.

The result was even a greater success than last year, the attendance was very large, taxing the capacity of the hall, and the occasion proving one of the utmost pleasure and profit to all who attended. Perhaps the only regret was the absence of Mr. Hale, who was to have acted as toastmaster, but was prevented by illness from attending the banquet.

The banquet hall presented a beautiful sight indeed, as the view on accompanying page will show. The long tables were attractively decorated with fruits, flowers and greens.

Plates were laid for 290 guests, and every seat was occupied, fully half of those present being ladies.

It was undoubtedly the largest banquet of agricultural people ever held in the state.

Promptly at 6.30 o'clock the company of diners marched into the banquet hall, to the inspiring music furnished by Colt's orchestra. At the head table were seated President C. L. Gold and Mrs. Gold, Dr. E. H. Jenkins, director of the Connecticut Experiment Station; the Rev. Mr. Twitchell, J. Lewis Ellsworth of Boston, secretary of the Massachusetts State Board of Agriculture; John Hall of Rochester, N. Y.,

secretary of the Western New York Horticultural Society; Professor E. D. Sanderson of Durham, N. H., secretary of the New Hampshire Horticultural Society; Leonard H. Healey of Woodstock, master of the Connecticut State Grange; I. C. Fanton of Weston, secretary of the State Board of Agriculture; Vice-President Elijah Rogers of Southington and Mrs. Rogers, Aibert T. Repp of Glassboro, N. J., president of the New Jersey Horticultural Society; Dairy Commissioner Hubert F. Potter of North Haven, W. O. Rogers of Norwich, president of the Connecticut Poultrymen's Association; Commissioner on Domestic Animals Herman O. Averill, Wilfrid Wheeler of Concord, Mass., secretary of the New England Fruit Show; William P. Rich of Boston, secretary of the Massachusetts Horticultural Society; H. W. Collingwood of New York, editor of *The Rural New-Yorker*; Professor E. F. Hitchings of Waterville, Me., state entomologist; Wilson H. Lee of Orange, president of the Connecticut Dairymen's Association, and Dr. L. A. Clinton, director of the Storrs Experiment Station.

Grace was said by the Rev. Joseph H. Twichell of the Asylum Hill Congregational Church, Hartford, and then for nearly two hours the company gave themselves up to the enjoyment of the excellent menu. The dinner was served in Caterer Habenstein's best style, the menu being as follows:

## The Menu.

STONY CREEK OYSTERS, ON HALF SHELL

SALTINES

*Soup.*

TOMATO BISQUE, GUILFORD

FRENCH BREAD

CELERY

*Entree.*

LOBSTER PATE, A LA MILFORD

PARKER HOUSE ROLLS

*Roast.*

NEW LONDON COUNTY TURKEY, CRANBERRY SAUCE

MASHED POTATO

MASHED TURNIP

*Salad.*

HORTICULTURAL

MAYONNAISE

FRENCH ROLLS

LITCHFIELD COUNTY ICE CREAM

GLASTONBURY CAKES

COFFEE

SALTED NUTS

CONNECTICUT APPLES

CRACKERS

ROQUEFORT

At the conclusion of the dinner President Gold arose to call the assemblage to order. The popular and respected President of the Society was given a real ovation, the applause continuing for several minutes.

PRESIDENT GOLD: I thank you, ladies and gentlemen. You have called yourselves to order. You will notice on the menu card here that Mr. J. H. Hale is put down as toastmaster. I am sorry that he is not here, and perhaps a word in explanation would be in order. It is somewhat of a long story, and dates back to last fall. A number of us who were in Boston at the New England Fruit Show are aware that Mr. Hale was there, and I cannot forbear from telling you a tale about him. He made a fine exhibit of ap-

ples at that time. Among them was the Ben Davis, an exhibit of which he had the audacity to take up there, and I am sorry to say that Connecticut carried away the first prize on that apple. Mr. Hale was the winner. Therefore, under the circumstances, we do not hardly see how Mr. Hale could be allowed to act as toastmaster at this meeting. Something ought to be done to a Connecticut man who will exhibit and win prizes on Ben Davis apples. I do not wish to criticise the gentleman, and trust that as he is not present it may not be reported to him. (Laughter). However, we have with us a gentleman from the southern part of the state, whom I am sure will make good. I have the pleasure of introducing to you to-night as toastmaster Dr. E. H. Jenkins, Director of the State Experiment Station at New Haven.

DR. JENKINS: Friends of the Connecticut Pomological Society: No one regrets as much as I do the absence of Mr. Hale. I saw how the number of ladies in the audience regretted it when they saw me in the place which he had been chosen to occupy. (Laughter). Mr. Hale is not only an admirable toastmaster, but he is also everywhere a cheerful optimist, and optimism is what we need in our business. I am not quite sure but an incident of which I read recently in the papers illustrates the greatest piece of optimism in the country. A few years ago in New York an iron worker slipped as he was working upon an iron beam at the sixteenth story of one of their sky-scrappers, and fell headlong. As he plunged downward, he called out to a person inside the building, "I am all right so far." That man lost his life shortly after. (Laughter).

Now I hope you will not be disappointed in me to-night. I never have tried to officiate in this capacity before. I have been trying to remember all the afternoon what I could say, or at least since I knew that I was to occupy this position. I think I should have been afraid to occupy it if they had not asked my friend, Dr. Twichell, to ask the blessing. Now, of course, he is engaged in another field of labor in this state.



He is an optimist like Brother Hale. He was an optimist in college. He helped to pull a winning oar on the university crew, and he has served his day and generation by preaching and practicing righteousness. It gives me great pleasure to introduce you to Dr. Joseph H. Twichell. I presume he is generally known by that name here. If this were a bunch of Yale men, we should call him "Joe Twichell."

DR. J. H. TWICHELL: Mr. Toastmaster and Friends: I feel moved to say in the first place that you are a mighty well appearing body of people. I do not know whether you are embarrassed at that remark or not, but I felt that I ought to say that at the start (Laughter). Now I had no idea when I came here this evening just what I should say. We ministers of the present age are not, as a rule, versed in the practice of agriculture. It was different in times past. A hundred and fifty or two hundred years ago, and in fact later, during the colonial days, many of the ministers and preachers of the gospel were fruit growers. A story of one of them has come down to us which may be of interest. There was an old Parson Robinson, the father of Dr. Edward Robinson, the eminent scholar and traveler, as you know, who is said to have performed great services in the town of his adoption by teaching men how to farm, and it is said that he always taught them how to bring their products to market. It is alleged that he himself officiated as the middleman in the case, buying and selling, and became quite thrifty, so much so that he acquired a considerable estate, so much so, in fact, that those on the farms with whom he dealt, and from whom he bought, began in process of time to find out that they had got to be a little careful in dealing with Parson Robinson. (Laughter). It is related that one man who had not received proper advice as to the parson, after a transaction with Parson Robinson, or sometime after, when he found out his situation said that the parson had got the better of him, and he said to him, "Parson, you were fulfilling the scriptur-



VII. VIEW OF THE BANQUET HALL AND TABLES.

Ready for the Society's Annual Banquet, February 2, 1910.



al injunction, I suppose, 'I was a stranger and ye took me in.'" (Laughter).

I never heard of a minister who was a pomologist save in one case, and a memorandum of that fact is preserved to the world by the existence of an experience which he related. It was said of Father ——— of Torrington, that he had a peach orchard, and although it was a good, nice town, and the people of Torrington as good as they are generally, it is related that he had lost a great many peaches at night as the crop was ripening. He had reason to strongly suspect that some of the members of his parish had something to do with it. He went into the Sunday School one Sunday, and was called upon to make some remarks. He stood up and he said that he had had a dream. He said, "I dreamt that I was in Heaven, and there, boys, I saw the most magnificent peach orchard I ever dreamed of. Splendid great ripe peaches hanging on the boughs. I said to the people in that country, 'How in the world do you keep those peaches? Can you keep them?' Yes, they did. 'Well,' I said, 'I cannot keep mine. How do you save them? I should think the boys would steal them.' 'The boys steal them,' they said. 'Where are you from?'" And he had to tell them that he was from Torrington. (Laughter).

I feel myself somewhat embarrassed in attempting to talk to you from the fact that I have never been a farmer, and know comparatively little of fruit growing. In my younger days I had to rake hay after the cart when I wanted to be fishing, and I think possibly that bred within me a prejudice which I have not shaken off. I had a classmate who suffered somewhat in the same way in his early days, and who finally came to the point where he wanted to buy a house. He went to a real estate agent, and he said, "I want you to find me a house that will suit me. I have great difficulty in getting one that will satisfy me." "Why, how is that?" said the agent. "Well," he said to him, "I want a house that has absolutely no vegetation whatever on its

premises. Around all that I can get there is grass, there will be grass growing." He was hunting for a house without a spear of vegetation about it. He came out of his early training with that prejudice.

Now I shall end as I began, by saying that you are a very good looking lot of people, and I trust that you will have a most enjoyable time during the rest of the evening. (Applause).

THE TOASTMASTER: We have a considerable number of our friends here to-night whom we want to hear from, and we must all be very brief. I hope every man, woman and child will feel that they may be called upon to say a single word, and then they can work out of it if they want to. I am going to try to save some of you a little trouble by saying some of the things which I presume may be said in the beginning, or which those who may be called upon may be tempted to say. I propose to say a few of those things before they really begin. Then the others will not have to repeat them. I will begin by saying that this is quite unexpected that I have no notes whatever, and really have nothing to say, that it is a great pleasure to be here, that this has been a most delightful banquet, that I never had the pleasure of spending such a delightful evening with such a delightful company and of listening to the delightful Mr. So-and-So and Mr. So-and-So. (Laughter). I feel that any feeble remarks of my own would be like casting pearls before swine. (Laughter). That is what I heard not more than two years ago, at an agricultural meeting, too. I think I know just how that man felt.

Now we have a number of visiting friends from whom we would like to hear, and it is one of the great pleasures of this meeting that our friends from the other states have come here to assist us. Connecticut is called the "land of the wooden nutmeg," but I think that we have good reason to say that Massachusetts is the land of the gypsy moth. We have with us the Secretary of the Massachusetts Board of

Agriculture, Mr. Ellsworth, and I have great pleasure in calling upon him at this time to address you.

MR. J. LEWIS ELLSWORTH: Mr. Toastmaster, Mr. President, Ladies and Gentlemen: Your Toastmaster has started my speech for me, and so I will begin where he left off by saying that I am delighted to be here and glad to meet your people. I know how you live down here now. I have been here before, but my visit was hurried. I did not stay. I did not have an opportunity to observe you very closely. To-night I have learned something about you. I feel that you live through taking a long time to eat. I suppose that is the way you do every day. It is quite different from what it used to be in Connecticut. I remember a story that I heard of a Connecticut man who was very careful to make everything come out square, and make a profit. It is said that he had so much time for work about the barn, so much for field work, and he had it all planned out. As he had it laid out, it left him thirty minutes for his meals, for feeding the hogs and for family devotions. You take about two hours for your meals, and I am glad of it, and you feed pretty well, too.

Now I am not going to make any speech. I want to say that I feel more at home among a lot of Connecticut people than I did a while ago. At the time of the Fruit Show in Boston we were for several days in fear and trembling as to how that Show was coming out, how we were coming out financially. I am very glad that we came out all right financially as well as otherwise. One evening the Chamber of Commerce gave us a fine banquet, and that was a very successful and pleasant feature of the occasion. I very well remember that among the speakers was Mr. Hale, and I am sorry not to meet him here this evening. When I looked over the Chamber of Commerce, I could not help but feel that the farmers and fruit growers of Massachusetts and New England were coming into their own. There was a great assemblage at that banquet, many of the representative



men of the state, among them a millionaire and other fellows that know how to do it. I will not dwell upon that, because I know you have already heard a great deal about that remarkable fruit show.

Now you know that Massachusetts is called sometimes the "greenhouse state." We raise a great variety of flowers and vegetables, and all of those things. A great many cucumbers. I remember a story about a boy going down the street. You know that cucumbers are not always really good for you, especially if you eat too heartily of them. The boy had been eating cucumbers, and he was singing as he went along the street, "Nearer My God to Thee." (Laughter).

I want to assure you, ladies and gentlemen, that the fruit interests of New England were never any better taken care of than they are now. The recent show in Boston was of great help to us, and to the growers all through New England. We hear it everywhere we go. We hear it here as well as we did at the New England Fruit Show itself. It was an object lesson to our farmers all through New England to see what the orchards were doing. I do not think that the orchardists themselves realized that they were raising such good looking fruit, some of it a great deal better than they suspected. Such shows as that which we had at Boston are of immense help to the growers all through this section. There are some problems in front of us, but I ought not to take your time to go into that now. We have got to conquer our insect pests, and especially the San José scale. We have one difficulty in Massachusetts which possibly you do not have in Connecticut. In Massachusetts we have the deer. I assume you have some in Connecticut besides those who are here. (Laughter). The deer in Massachusetts eat up our young trees, and have become quite troublesome to the farmers in some sections of the state. They have been protected by law for quite a good many years, and have become quite numerous. This year there is going to be an effort made to have the law taken off so that the deer can be

taken care of. I presume that these problems, or some of them, at least, will be talked over at your meeting.

I want to say again that I bring the best wishes of Massachusetts, from the Board of Agriculture, and I hope that you will continue in your prosperous daily life. (Applause).

THE TOASTMASTER: We have got another man from that neighborhood, whom we propose to call on during the evening; in fact, we have several men from up in that country, but we have got one man whom we particularly want to hear from now, who comes from a little nearer the Arctic Circle than the others. I am going to call on Prof. Hitchings of Maine to say a few words.

PROF. E. F. HITCHINGS: Mr. President, Ladies and Gentlemen: I listened with a great deal of attention to our good brother who made the statement that he knew of only one minister who was a pomologist. Down in Maine we have had quite a few of them, and we have found that most of our deacons were engaged in fruit growing. In Maine we have had several difficulties in the fruit line. We met some of those difficulties last fall when we came to Massachusetts to show our mother that the child had gotten too old to be spanked. Though we were set off and discarded in 1820, yet in the intervening years we have felt that we have grown so that possibly we could give our mother a few points. So we are trying to do that along the line of better fruit, and we feel that the New England Fruit Show has been more of a benefit to Maine than any of the other New England states. It is hardly the right thing for me to come down here from the opposite end of New England to Connecticut and make such a statement, but when your President made the excuse that he did, that Brother Hale was not to be allowed here in this hall to-night just because he took that first premium for the Ben Davis, I felt that I ought to say something, and then to thing that a Connecticut man who had said perhaps the most against this should take this blue ribbon away from Maine. I think it was a disgrace, because down in Maine

they have raised some Ben Davis' but we never eat them. We send them to the other fellow. (Laughter).

Now we have started a campaign for better fruit, I think Massachusetts feels a little jealous to think that Maine got the offer by James Gregory for the two hundred dollar prize that is coming to us every five years as long as we live. I am sorry for the rest of you, I am proud because I am a Maine-iac.

Now I am just glad and tickled to death to be here, and I want your President to send me an invitation every year. When your President sent me the invitation this year, it did not take me long to sit down and dictate a note to him that I would be here. I have come to stay and see the thing through. It gives me great pleasure to be here to-night and look into your faces. We have lots of deer in Maine, but you have got the whole bunch, and better ones, too, down here. (Applause).

THE TOASTMASTER: We have with us a representative of the agricultural press. When I read some of his editorials I am reminded of the story of a dog. His owner said that "he wasn't very much of a dog but he did worry cats awful." When some one tackles our friend of the press for an argument with him, excuse me, but I always feel worried for that man. I am also reminded of the story of a man up here in Barkhamstead who had a cow that he was going to take from the barnyard. He had a rope around her horns, and was trying to drive her. As he got her out of the yard, in some way the man got mixed up with the rope and the cow proceeded to drag him through the sand and gravel for some distance. His wife saw him and she said, "You ought to know better than to get mixed up with that cow in that way." "Well," he said, "I see I have made a mistake. (Laughter). I think that is the way with some who have been mixed up with our friend, and we want to hear now from Mr. Collingwood of the Rural New Yorker.

MR. H. W. COLLINGWOOD: Mr. President, Ladies and Gentlemen: I do not think I could keep away from the banquet of the Connecticut Pomological Society if I tried. I read the other day of a very dignified bishop in Georgia, who went to visit some friends in the country. The farmer had two very fine, beautiful daughters, as all farmers generally do. At any rate, the bishop found time was rather heavy on his hands, and these two beautiful girls said to him, "Let's go fishing." So they went down to the creek, baited their hooks and began fishing. An old farmer came along and looked over the fence. He was a man that had no respect for persons, and so he called out, "Hello friend, how do they bite?" The bishop gathered himself together, and he said with some dignity, "Sir, I am a fisher of men." "Well," said the farmer, "you are a sport anyway, because you know your business. You have got the right kind of bait." (Laughter). It was the right kind of bait that brought me over here.

Some years ago I taught a district school in Michigan. One Saturday night we were invited to Deacon Brown's house, and we all went. Now Deacon Brown did not believe in dancing, but some of us put up a job on Deacon Brown and got him out to the barn to look after a sick cow. While he was gone we took our partners and stood up there in the kitchen for a dance. That was over thirty years ago. And I remember as I stood there with the rest already for the dance to begin, with the fiddle playing, how surprised we all were when the door opened and in came the Deacon. He says, "Stop this right off. Stop it at once. You can't dance in my kitchen." Now Deacon Brown was a strict Methodist, and he broke up the dance. I thought it was all over, but in about five minutes one of the fellows came to me, and he said, "Come on out in the kitchen. We are going to sing the Hartford girls. We are going to form in the kitchen just as though we were going to dance, and we are going to sing the Hartford girls. So I asked Mrs. Brown, the Deacon's

wife, to be my partner, and told her, "We are going to play the Hartford girls." Well, with my knowledge of Hartford, I knew that I was right into the game on that, and so I asked Mrs. Brown if she would dance the Hartford girls with me. She weighed three hundred, but she dropped a curtsy and said, "With pleasure, sir." And so I took my place with Mrs. Brown at the end of the kitchen. Instead of dancing to that tune, or playing the same tune, the fiddler was going to play, and so we all stood up there in the kitchen. I thought it was peculiar that the Deacon should not object, but there sat the good Deacon spitting his hands, and saying, "Faster," "What are you doing there?" and keeping time: "Hurry up, go on there." He seemed to be enjoying himself to the limit. Well, I did not understand how it was, and when we got through, I went over to him, and I said, "Why did you shut us off when we played the tune, and why did you encourage it when we sang and went through the same motions?" "Why," he says, "young man, I married a Connecticut girl." (Laughter). Well now, there must be something about the soil and the climate of the old "Nutmeg State" that gives a Hartford girl such a high character that she can sanctify the dance. When some of these fellows come along and look the way you do, I am afraid that they would be a little strong for the Connecticut girl. Now I think that Nature knew her business. You men here with your wooden nutmegs had to have partners with pretty strong sense to keep you straight, and that is why Nature has made the Connecticut girl of such an exceedingly high character. (Laughter).

But, gentlemen, to sober down a little after this,—I believe that all the high character and sanctity will be needed, and needed soon, in this country. My friends, I wonder if you ever stop to ask yourselves this question: "Are we worth the price?" Are we worth what we have cost? What do I mean by that? I mean, are we as Americans to-day worthy of all the blood, all the treasure, all the labor, all the hope,

all the petitions, and all the ambitions that lie back of us in the history of New England? Did you ever stop to think of that? With our easy life, with the rough places made smooth, are we giving to our country, to our state, and to society, that which brands us as being worthy of the price? I believe this is a serious matter for our consideration. My friends, I believe we are on the verge of a social revolution. The scientific man tells us that the old Bordeaux mixture gave good results. We know it did. They tell us that they have found a better, a stronger, and a more useful combination of lime and sulphur, with copper put in. These men of science, these men of intellect, who have examined these questions seem to agree that they have found without question a better remedy, one that will do our work better than the Bordeaux mixture, one that will do our work so much better that it means an entire revolution in the method of spraying. We may no longer say that we know how to spray until we find how to use this new combination. Is that not the case in like manner with many of our habits and many of our customs, ways of doing business, and many of our views of life? Are not, in like manner, many of these things to which we have been accustomed to be broken up and be reorganized? It seems to me that that is too clear for question, and that out of that will come this idea that the world does not need our money, my friends, half as much as it needs our manhood and womanhood. I believe that that leads to another thing. I believe there is not a man or woman before me tonight who does not feel down in his heart that the old farm and the old orchard at home stands as the noblest and truest monument of their life and labor that they can ever erect. Many a man who sees the hair upon his head growing gray sits down and wonders what is going to become of it all,—when these hands can no longer spray or prune, when the brain can no longer think and the mouth no longer talk, he wonders naturally who is going to care for that monument which he has reared by the labor of his hands. That thought,



my friends, it seems to me is something that is deep down in every man's heart. What is to be the future of these farms, the future of these orchards that we hold so dear? Their future is not dependent upon the wealth that we may create, not upon the wisdom of the wisest man, but upon the tender life of a little child that is coming in the future to take care of them. Think what that means? It is those who are to come after you that are to take care of these monuments which you have erected for yourselves. How incumbent upon us, therefore, it is that those who are to come should be correctly taught? The beauty of such a text and of such a sermon is such that I do not need to say one single word more to make it clear.

I thank you. (Applause).

THE TOASTMASTER: We are also very glad to go to another sister state for a speaker, to New Jersey, our next door neighbor on the south. I am going to ask Brother Black of New Jersey to say a few words. Mr. Black is a representative of the New Jersey State Horticultural Society.

MR. E. S. BLACK: Mr. Toastmaster and Gentlemen: I think you have called upon the wrong man to make a speech. I came down here to get information and not to give information. We of New Jersey do not intend to give anybody any information that we have. We expect to keep that to ourselves and get all we can somewhere else. (Laughter).

I was at Hartford once before,—in 1881. I remembered about Connecticut when I was a small boy. About all that I had heard of it was that it was a land of school teachers, wooden nutmegs and wooden hams. The biggest part of the education I ever had I got from a Connecticut school teacher. That was a very favorable experience, but the next experience that I had in Connecticut was not so favorable, and that was in 1881. I came down here to pay a visit at Mr. Hale's place. They told me how to get there; that I should take a Connecticut Valley train and go down to a little town, I think they called it Rocky Hill, and there I would get a

ferry-boat to take me across the river. It was raining awfully hard that day. Fortunately, I had the fashion of wearing my top boots. I found the ferry, and the fellow that ran it, and he got me across the river, or, at least, part way across. When we got within about a hundred yards of the other side, he said that he could not go any further, and that we would have to walk. Well, we got ashore somehow, and then I started to find out if there was a hotel, for I was cold and wet. They said there was one. I walked about two miles to find the hotel, and then, upon inquiring for it, they told me there had been one in that town, but that Glastonbury had voted "dry" and so they did not have any there. I was wet and cold and hungry. I never drank a drop of liquor in my life, but I really would have liked it if I could have gone somewhere to get warm. I finally found the place. Later on in life I heard more about Connecticut, but at that time I thought it was all J. H. Hale. (Laughter). I thought that was all there was of it.

Last year I had an invitation from your President to come down and participate in your banquet. Just at that time, although I expected to come and have a big feed with you people, I was taken with the grippe, and so did not get here. But I am here to-night, and am happy to greet you people, and to extend to you the greetings of New Jersey. I am glad to see all this beautiful fruit which you have had on exhibition, and all the advancement that you are making in horticulture. I rejoice with you in all the wonderful things that we have seen and heard at these meetings, and I thank you from the bottom of my heart for the invitation to come and join you. When I go back to New Jersey, I am going to tell them what you are doing here, and you want to look out, for, if you do not, in a year or two New Jersey will beat you all to pieces. (Applause).

THE TOASTMASTER: You have all heard of New Hampshire. We have heard of its beauty, and have seen many pictures of its scenery. Some of us have enjoyed the magni-

ficent traveling in that state. We have a man here from New Hampshire to-night. I am not going to say anything about him, because I want you to see how he looks himself. I will ask Professor Sanderson to say a few words.

PROFESSOR E. D. SANDERSON: Mr. Chairman, Ladies and Gentlemen: I suppose you think it is in order for me on that introduction to say something pretty fine, but I am reminded of a story that was related to me by a friend of mine. This friend of mine was telling the other day how he and some other student friends were living at a German boarding house, and the landlady had the habit of asking very long blessings, and the students got very hungry. They were wondering how they could induce her to shorten up her invocation. Finally they hit upon a plan. They went to her and they said, "We have a custom over in America that is really very fine, and we would like to tell you about it. We would like to tell you how they ask the blessing in America." "What is it?" she said. "Why, you just bow your head and say, 'Pitch in.'". And so when the next meal was served she proceeded to ask the blessing, and said "Pitch in." That is all the blessing that they had thereafter.

I have no speech to make, Mr. Chairman, on this occasion. I certainly wish I had twenty-five people from New Hampshire with me, attending this gathering, instead of only my friend from Rochester. I think if some of our good people could come down here and see the enthusiasm, and the magnificent time which you have in this organization, it would be worth a great deal to us. A meeting such as you have been having to-day must be a source of very great encouragement to the fruit growers of this state. We have a horticultural society in New Hampshire, which is just getting on its feet, and the inspiration of such a gathering as you have here is certainly worth a great deal. I regret very much that some of my New Hampshire friends are not here with me to enjoy it. I hope another fall we may see a lot of you good people up in New Hampshire. I hope to have a delegation

from all sections at our next annual meeting. If so, we hope to see you up there, and have some of you tell us how you do things down here. We have a great deal to learn. We are going to get you up there because we want to learn how to get prizes on some of these other varieties of apples besides the Ben Davis that you seem to know how to grow down here.

I certainly appreciate very much this opportunity of being here and meeting with you people, and I am sure if the New Hampshire men had known that they were to be represented here that they would have sent a most cordial greeting. (Applause).

THE TOASTMASTER: Now we have another brother who is President of the Massachusetts Fruit Growers, Mr. John W. Clark.

MR. CLARK: Mr. Toastmaster, Ladies and Gentlemen: I did not sit at the front table. I was seated over here very pleasantly, and thinking how sorry I was that they were not going to call on me. I am obliged to you that you did not forget it, Mr. Toastmaster.

In regard to the fruit question in New England, I think we have got to get where we ought to have been years ago. We have been like a man who came into an office with a bag in his hand, and he said to the proprietor, "I understand you want to buy some pups?" "Yes; what kind of pups have you got? What are they? Are they Republican pups or Democratic pups?" The man said, "Those are Republican pups." "Get out," said the man he was talking with, "I do not want any Republican pups around here." In a few days the man came back. He went into the same office, and he said, "You want to buy some pups?" "Yes; what are they, Republican or Democratic pups?" "Democratic pups," said the man. "All right, let me see them." As soon as he saw them he said, "Those pups are all right. They are Democratic pups. They have got their eyes open." (Laughter). So when I think of the fruit industry of New England, I

think we are just beginning to get our eyes open. I think that show in Boston last fall has done more to stimulate the fruit industry than anything else that has been done for years, because it has opened our eyes. I think it will do a vast amount of good, because many have had the idea that all you had got to do to grow fruit was to plant the trees, and then sit in the shade and let the trees take care of themselves. Fruit such as was exhibited at that Boston show cannot be raised in any such way. It used to be so that things could be planted, and we could wait a few years, and then the next generation might begin to get some fruit by the time they got to be middle-aged, but the average American is not content now with any such state of affairs. Now you can set out a tree, an apple tree or peach tree, and, if you will see to it, have it come into bearing within three or four years and enjoy it yourself. It will die unless it is properly attended to. You cannot afford to ignore your fruit nowadays. If you take care of it, there never was a time when the prospect was so bright as it is to-day. The whole problem can be summed up right in one sentence, which is simply this, that we must grow better fruit, and in that way command the market. A great many have taken me to task and said, "Why, your fruit is so nice when we do not have fruit fit for anything." I know of one man who pretends to be a very prominent horticulturist. He had one of the Boston commission merchants in his orchard, and he was telling me all about his fruit, and what he was going to do with it, how nice it was, etc. The commission merchant paid him a visit, and when he got through he said, "You haven't got an apple here that is fit to market." He did not have a perfect apple in his whole orchard. That just sized up the situation. We have got to grow good fruit, fruit that the market will take, and to grow that kind of fruit the orchards have got to be taken care of. Then there will be no trouble about selling it. It will sell itself. Apples have averaged from one to six or seven dollars a barrel this season, just according to

quality. The market has been glutted this year with second-class fruit, and there has been a lack of strictly fancy fruit. Do not be afraid that well-grown, good fruit will not find a good market and at a good price. Do not be afraid that we are going to grow too much good fruit. We have simply got to get on to our job and do our work as we should, and then we shall make a success of growing good fruit. We are just getting on to our job. We are just learning how to do it as it ought to be done. The New England Show was a great help. I hope the fruit shows of New England will be continued. It gives a chance for the growers to bring in their best fruit, and shows the public what can be done. In that way, they will do a great deal to show the world that we can produce high-grade fruit.

THE TOASTMASTER: We also have with us another representative from Massachusetts, the Secretary of the Massachusetts Horticultural Society, Mr. Rich.

MR. W. P. RICH: I came down here to-night to enjoy with you the festivities of this occasion, and am not prepared to make any extended remarks. I came down to partake rather of the inspiration of this gathering, and to learn from the speakers which you are having at this meeting some points that will be of interest and value to me in my horticultural work. I am very glad at this time to have the opportunity of bringing to this gathering the greetings of the old Massachusetts Horticultural Society, which I have the honor to represent. I am also glad to have the opportunity of meeting with so many of the representatives of the horticultural interests of New England. A great deal has been said to-night regarding the Boston Fruit Show. Of all the important benefits which that fruit show has given, there is one which appeals to me perhaps as strongly as any other, and that is, it has brought the men engaged in practical fruit growing closer together than they ever were before. That was one of the very desirable things which that show accomplished. It gave an opportunity for the fruit men of New



England to come together, to talk over their plans, and decide what was best for their interests. I like to look upon a horticultural society as an educational institution, teaching people what the best methods are, and also, hold up before them an example and methods for carrying on their work, and the advantages that are to be had from associated effort which is growing more and more in our country to-day.

Mr. Chairman, I thank you for the compliment to the Massachusetts Society in asking me to represent it on this occasion. I wish the Connecticut Pomological Society every success in its work in the future. It has done a good work in the past, and I think it can look forward to greater accomplishments in the future, as can all the horticultural societies of New England. (Applause).

THE TOASTMASTER: Some one has called the work of handling an orchard the work of a *botanist*. Certainly fruit growing has come to be a continual fight with insect pests and fungous diseases. A man who prepares the ammunition and the weapons for this sort of fight is with us to-night, and we want to hear from Mr. H. L. Frost.

MR. H. L. FROST, of Arlington, Mass.: Mr. Toastmaster: As I was enjoying the dinner to-night, your Secretary came to me and told me that he thought I was going to be called upon. Well, I said that I did not know, that I had not been notified, and that I didn't think I had better be called upon. "Well," he said, "you have been abroad this fall, and we want you to tell the people some of the things you saw there." So you see the fix I am in, and I am going to advise my friends who are here, and who go abroad, that you are likely to get into the same predicament that I am in perhaps. Your Secretary wanted me to give you a little outline of what I saw concerning the fruit interests abroad. Well, I went into six countries, and found wormy apples in every country that I visited. I was not up very well in the languages of some of the countries that I visited, but every time I saw a street peddler that had fruit I asked him for

some of his fruit. I did about the same as a man who had preceded me did in paying for whatever he bought. He got a lot of the smaller coin, and picked up what he wanted and then dropped one coin at a time into the vender's hand. When he saw the man smile he stopped dropping coin. In my case they could not quite make me out, because I put for the poorest looking apples in order to find the wormy ones. As I said before, the fruit business and horticulture seems to be in a paralyzed condition all over the Continent. I saw more pears with the codling moths in them than I ever thought could exist. This gave me the idea that there was a great opportunity for exporting fruit to those countries, especially from the east here. In Hamburg, Germany, I got into a fruit market and found a man who had been in America, and he was handling American apples. He showed me some New York apples in barrels. They were simply ordinary apples, and they were asking \$7.40 per barrel. I also asked him what the duty was in Germany, and found it was comparatively small. On apples in barrels it is comparatively low, but on apples that are wrapped, the German government imposes a higher duty. The more papers there are on the apples the more, apparently, it costs. I asked him why that was, and he said that they considered that the apples must be better if they were wrapped, and they had to get a greater income by the duty. In Berlin, I asked a friend if they had any American apples, and he told me that they never considered one of their dinners complete unless they had some California apples on the table.

To-night, after hearing the talk here, and seeing your fruit, and the Connecticut exhibit, I have begun to think that the next time that any of us go abroad we may not see in any of the countries over there California apples, but it will be New York apples and Connecticut and New England fruit in Hamburg and those other places that I visited. You are certainly raising some fine fruit in Connecticut. In Massachusetts, where we held the New England Fruit Show, you

came over there from Connecticut, and they came in from Maine, and took all our prizes. Our prayer for the future is that you will hold your membership list open in your Connecticut Pomological Society so that even though we live in Massachusetts we can belong to your association. (Applause).

THE TOASTMASTER: I am very sorry to say that the Toastmaster has not got an automobile to-night, and as he did not understand that he would be called upon to fill this office, and it is absolutely essential that he should catch a train, President Gold has very kindly consented to conduct these exercises from now on. I am very sorry that I am obliged to go, because I know what I shall miss. I wish I could stay with you, and afterwards go to the hotel for a smoke, but as it is, I am obliged to leave and shall leave the office in his good hands.

President Gold then took the chair and introduced the following speakers.

PRESIDENT GOLD: The next speaker on our program to-night is from the town of Woodstock. That town has been noted for years, and, in fact, this notoriety dates away back before the Revolution. It is still bringing up mighty men and women that are a power in the association to-day. There is a man in the town of Woodstock whom we would like to hear from. I will call on Mr. Healey, Master of the Connecticut State Grange.

MR. L. H. HEALEY: Mr. Toastmaster, this is my first intimation that I should be called upon. While sitting here some of us have criticised, or at least, we have been wondering somewhat at one thing that the Pomological Society has done. While it represents the whole state in the fruit industry, in the line of fruit raising, it has only seen fit to exhibit two varieties this evening. I refer to the apples *upon* the tables and the peaches *at* the tables (Laughter and applause). I know that all those who have preceded me are very glad to see the ladies present, and the gentlemen always

feel that if they say anything worthy of repetition the ladies will usually repeat it. (Laughter). I am reminded of the story of a little incident that is said to have happened down on the eastern shore. A young man had his lady friend at the seashore. He was a very bashful young fellow. One afternoon they were sitting upon the sand when he felt that she had arrived at about that stage when she was willing to be kissed. The young fellow put his lips over near the young lady, but she, with womanly intuition, I suppose, knew what he was up to, and she fooled him. So instead of kissing the girl he smacked his lips. The girl, of course, heard the racket. She was sitting with her back partly towards him, and she turned around and said, "Henry, what was that noise?" The young fellow said, "I just got a little sand in my mouth and I was spitting it out." After a while he thought he had screwed up his courage to where he might perform the operation successfully, but again the girl fooled him, and for a third time also. The girl for the third time turned and said to him, "Henry, what was that noise?" And again the young fellow had to say, "I got a little sand in my mouth." The girl turned and looked at him and she said, "Henry, you swallow the next mess; you need some." (Laughter).

Now friends, there is not sand enough in me to-night to enable me to attempt to make a speech. It is a pleasure for me to be here, a pleasure which I cannot express in words. The fruit industry of Connecticut is one of the state's most important industries. It is making fine progress under the leadership of this society. It is also true that the trend of the times is back to the farm. The American boy is learning to go back to agriculture and to the farm which he quitted for years, there to take up again his life work, and this society in the work which it has done in all the years of the past has gone a long way towards encouraging young men to do that very thing, and to hold before them the prospects of the future which they cannot gain in equal quantity anywhere else except upon a farm in Connecticut.

I will not take your time further, Mr. Chairman. I thank you for calling upon me. I cannot wish for this society any greater thing than to wish you the same prosperity for the year 1910 as you have enjoyed in 1909. (Applause).

PRESIDENT GOLD: When the storms drive, the winds blow, and the waves beat high, you have all been taught to get under the lee side of the shore. To-night, we have with us the President of the Connecticut Dairymen's Association. I am going to call upon the Hon. Wilson H. Lee of New Haven.

MR. LEE: Mr. President, Ladies and Gentlemen: I was very much pleased to-night when Dr. Twichell complimented the appearance of this audience, and I was reminded of the time when we had the State Board meeting in December, in New Haven, when one of the evening papers stated in an editorial that the farmers of the state were holding a convention in our city, and that it was very easy to tell one when you met him on the street, because they were so much better looking, so much better dressed, and had such a prosperous appearance that they could easily be told from a business man. Like the southern girl who was sent to a fashionable New York boarding school. She was the daughter of an undertaker. When asked the business of her father, fearing, if she should tell the truth, she would lose cast, she said that he was a southern planter (Laughter), showing that the planters and farmers stand well in the south.

I am so pleased that so many of you have gotten together here to-night at this banquet. It is one of the best places in the world to rub off the rough edges in life, and at which to get acquainted. You have given us a good dinner. I am sure that you all have enjoyed yourselves. I know I have. The other day a gentleman had occasion to stop at a hotel and he made a complaint that he found a hair in his ice cream, another in his honey, and another in his apple pie. The landlord said to him that it was a very easy thing to see how it came in his ice cream, that it came from the shaving

of the ice. He also said that it was easy to see how it had gotten into the honey, that it was through the comb. But how it could have gotten into the apple pie he could not understand, as the apples were *Bald-wins*. (Laughter).

Now these organizations, to my mind, mean everything to the farmers of these New England states. These different organizations ought to coöperate with one another. I suppose you fruit men here would say that my product was a by-product. I appreciate that, for many of you keep a few cows to give you fertilizer to properly care for your orchards. An allusion has been made here to the benefits that this New England Fruit Show has been to New England agriculture. There is no question about that, but it will also encourage many to go into fruit culture that ought not to go into it. Now with myself, I would not undertake to raise fruit to any considerable extent. I have over two hundred head of horned stock on my farm, and I do not own a feather. I buy my eggs. Now why? I will tell you. I love a horse, and I love a cow. There never was a time in my life when I would not go further to see a good dairy, or a good horse farm than anything on earth. I like fruit, but I do not love it well enough to get into the game in a way that many a man does. That is just as true of poultry, and it is just as true of any other line of farming. I do not regard myself as being fitted to take up those other lines. You must love them well enough to study into them, and thus make them a success. Many a man will be encouraged to go into fruit culture, and the financial interest will be encouraged in that direction, but, to my mind, the man with money can do much better work by backing up, or using it in loaning it to the good fruit man in his community than by undertaking to secure some one to raise and cultivate an orchard of his own. While there may be some satisfaction in that, it will be a pretty expensive piece of business in the end, and my experience is that business men, no matter how



much money they have, they do not enjoy losing it for any great number of years.

I have already taken too much time, Mr. Chairman, but there is one thing, or one thought that I want to leave with you; and that is, see to it that the schools in these country districts are improved. I believe that is a great public necessity. Make the country attractive enough to keep these boys on the farm, as they ought to be kept, see to it that they can get a good education in the country. Provide a good place for the hired man and his family to live in, and to take his children to, and where they can be educated.

I thank you. (Applause).

PRESIDENT GOLD: I have a letter which I would like to read from my friend, Mr. R. M. Bowen, a gentleman who is vice-president for Rhode Island of the New England Fruit Show. He says that he is on jury duty, or otherwise he would have been here to-night. He wishes me to extend his greeting to the Society, and to say that he believes you are doing a great work, one that will be fully appreciated, not only by the fruit growers in Connecticut, but all over New England, and by the sellers and users of fruit generally. In his letter he goes on to say:

"If one wants a good illustration for the demand for good fruit, and especially apples, I think he only needs to go into the stores and see good oranges selling for twenty-five and thirty cents per dozen, and handsome apples at from fifty cents to one dollar per dozen. Then let him take into consideration the fact that these apples are in no way equal to our New England apples as to flavor, and that person must be short-sighted who cannot see the demand for just such fruit as the Connecticut Pomological Society is trying to induce people to raise. I have heard the remark made that so many are going into this business that it could not prove a success for all, but let them consider how many go into this that are not adapted to it, and who do not make a success of it, and let them also consider that the population in the cities

where no fruit is raised is increasing very much faster than in the rural communities where there is an opportunity to raise fruit, and they can readily see that the time will never come when there will be fruit enough raised in New England to supply the market.

"If, as I stated in an address I gave a few weeks ago, a person has a liking for work of this kind, and will go into it in a business-like way, the same as they would go into any other business, to make a success, and after starting in this way will attend to their business as they would any other business, and not as the majority of fruit growers have done in the past, there can be no question as to their final success, regardless of the fact that they have to contend with the San José scale, and a thousand and one other things.

"Let them bear in mind that there is no other branch of agriculture or horticulture, and no line of business that I am familiar with but what has an equal or a greater amount of obstacles to overcome in order to make it a success.

"I wish you and your Society great success, and hope that this meeting will prove to be the best attended, and will produce the best results of any that you have ever had."

I wish, before going further, to say just one word to correct what I fear was a misimpression created by our last speaker. He made reference to the farmers walking down the streets of New Haven, and putting up just as good an appearance as business men. I would like to ask what the farmer is to-day if he is not a business man? He will not be a farmer very long if he is not a business man, I can assure you of that. I will admit that it has been common talk, or a common expression that has often been taken for a fact by the public generally, that the farmer is not a business man, and I am sorry to say that too many farmers have not appeared to be business men, but most farmers are business men. Mr. Lee is a farmer, and many other successful business men are farmers, and I do not want them to get the idea and perpetuate the notion that the farmer is not a busi-

ness man. Excuse me for this criticism, but I felt that I ought to say that much.

MR. LEE: I said the business men of the city. If I made a blunder, I beg your pardon, but I meant to convey the impression that the paper said the farmers attending that convention appeared just as well as the business men of the city. That is the statement I intended to make. I have had the experience for many years, and I will say that it is one of the toughest business propositions that a man ever ran up against to run a farm successfully. It takes more ability to run a farm in the state of Connecticut successfully than it does an ordinary business.

PRESIDENT GOLD: Nearly fifty years ago, or a little less, the state of Connecticut organized the State Board of Agriculture. There were but one or two other states in the Union that had such an organization. To-night we have with us the Secretary of the Connecticut State Board of Agriculture, Mr. I. C. Fanton of Westport. We will ask him to say a few words.

MR. FANTON: Mr. President, Ladies and Gentlemen: It is not fitting that I should take but a moment of your time. I could not make a long speech, and I would not if I could, especially at this time. You have had many pleasing stories told you, and perhaps it might not be out of place at this time to refer to some things that will not, perhaps, make you smile. I am always in the habit of asking myself questions. Some of them I cannot answer; some I can. While sitting here to-night I have been asking myself the question,—where was the starting point of this Pomological Society meeting, or of this Connecticut Pomological Society? All things have their beginnings. Where was the beginning of this? I think you will agree with me that it was over yonder on the hills of Litchfield county, on a farm called Cream Hill, the home of that great educator, T. S. Gold,—there was the beginning of this Pomological Society. It was due in

large part to Mr. T. S. Gold. Do you know that the longer I live the more I appreciate that grand old man. I never realized so much as I do at the present time the difficulties that he faced and the difficulties that he overcame. I never realized so much as I do now the grand work that he has done, the work he has done for the state of Connecticut. Mr. Collingwood, I think, referred to character. I want to say to you that I believe the character and the influence of that grand old man is apparent in this meeting, and in this state of Connecticut to-night. We all have our ambitions. I have ambitions at the present time, and one of them, at least, I am going to tell you about. I want to live long enough to see an oil portrait of Mr. T. S. Gold hanging in a proper place in the room over at the State Capitol devoted to agriculture. I have been wondering how many there were who would feel it is a pleasure and an honor to coöperate with me in bringing this about. I know that not only those who are here would assist in such a work, but that we would find many more to coöperate in the matter. I should deem it a great privilege to do what in my power lies to bring it about.

As we have been looking back, and looking at the prospects for the future this evening, let us take a prospective view for just a moment. What shall it be, the future, in regard to agriculture? It is my ambition to see in the near future a demonstration farm in every county in Connecticut, a farm demonstration that shall be controlled and governed by the Connecticut Experiment Station and the College, a farm to which they can bring men who will not and cannot come to meetings of this kind,—where we can bring them face to face with the problems which are being worked out in our college and at the agricultural experiment stations, where they will learn in a quicker way than they would learn in any other way. I believe that is one of the important things that we should try to establish in this state.

Another thing I would like to see: I believe that we are working towards that end at the present time, and that is to

have our institute work carried on in a systematic way. The secretary of this association, the secretary of the Board of Agriculture, and the secretaries of some other associations are working along that line at the present time. There is much more to accomplish in that work as well as in many other lines of work which we are taking up, and which could be taken up, and which would be a help to very many men and women in the state of Connecticut.

These are some of the things that we are looking after at the present time, and if these things can be brought about I shall feel that the Board of Agriculture is doing good work, and is taking its proper place in the agricultural advancement of the state of Connecticut.

I thank you. (Applause).

PRESIDENT GOLD: We have not yet heard from the Connecticut Agricultural College. We have Dr. L. A. Clinton, Director of the Experiment Station at Storrs with us, and we would like to hear a word from him.

DR. CLINTON: Mr. Toastmaster, Ladies and Gentlemen: At this late hour I think you are something in the condition of the Sunday School boys who, after they had been seated for a long time, and had gone through the exercises of the Sunday School hour, were anxious to get out where they could move around and breathe the fresh air. A visiting clergyman was there, and the superintendent called on him to speak. He said, "Well now, boys, what shall I say?" One bright little fellow spoke up and he says, "Say 'Amen' and sit down." (Laughter). Well, I am not going to do that. I do not believe you ever saw a speaker who would. As the reverend brother spoke to-night and told what a dislike he inherited for the farm, I could not help but think what a strong point that was in favor of the teaching of agriculture in our schools. If he had had some agriculture in his school, he might never have taken to the ministry, and he might have stayed on the little farm, and also have had that love for the farm which was inherited in his younger days,

that agriculture might have been taught by a teacher who was capable. After speaking in one of our farmers' meetings in Connecticut to which were invited the teachers of the schools, and after the talk was over, one lady came up to me and she said, "I can teach agriculture." I was very glad to apologize for what I had said. I asked her where she had received her training. Why, she said she had had a three months' course in agriculture at the normal school. Well, to say nothing about that, if agriculture could be taught by good teachers who were competent and understood the subject, no doubt many a boy would retain his love for the farm, who is now anxious to get into the ministry or some other line of work. Many of these people who get so enthusiastic when they see these beautiful apples, get the farm fever, but they have another kind of fever after a while. Since the fruit show in Boston I have received some letters from people all over the eastern part of the United States, asking where they could buy fruit farms in Connecticut. I know of one man from New Jersey who is coming into this state through the assistance of a member of the State Board. He has bought a farm. He has been engaged with the Y. M. C. A. I hope that in his work with the Y. M. C. A. he has secured a large amount of patience, faith and hope, because he will need it all before he gets through with that proposition. A lot of these fellows are going to be like the man who got hold of one of the bulletins. This was a man who happened to receive a bulletin, and when he received it he opened it to see what was inside of the envelope. He found there a bulletin with reference to orchard management, and was delighted with the illustrations and what he read stating just how to prune old apple trees in order to get apples such as Mr. Drew told you about to-day. He commenced cutting off the limbs. He had the picture in his hand, and was looking at the tree when a friend came to him and asked what the matter was. He said, "I can't find that dern limb anywhere on this tree." (Laughter). Now that illustrates it. They are going to be up against it.



We cannot help it. In talking to a class of forty-two boys under my instruction, I have frequently said to them, "If I can keep some of you from becoming farmers I will have done well by you." If the Pomological Society can keep some of these fellows from going into fruit growing we will have done well by them.

I thank you. (Applause).

PRESIDENT GOLD: We have a few more that we are going to ask to speak. We have a man from Massachusetts whom we all admire, Mr. Wilfred Wheeler of Concord.

MR. WHEELER: Mr. President and friends of the Pomological Society: I know about how you all feel. You feel just like one of the members of the congregation of a certain parish up in the country where the minister had been preaching on the prophets of the Old Testament. He had placed all the major prophets in their proper order, and finally came down to the minor ones, and said: "The first of the minor prophets is Hosea. Now where shall we place him?" A man in the back part of the church said, "Hosea can have my seat. I am going home." (Laughter). I think that is about the way you all feel to-night. There is one thing that I want to leave with you, a thought which has not been touched on as yet to-night, and that is the necessity for educating the people in the consumption of fruit. We are teaching people to raise and produce apples of the most attractive character, and all that, but we are not doing enough to teach the people the use of our products. If you will stop a moment and recall the history of the United Fruit Company, which started here a few years ago, you will remember that the first thing they did was to advertise their fruit products. They went down south and commenced to raise their fruit, but they found that the consumers in the United States did not know what they were, and did not use them in sufficient quantities. So they spent a million dollars in advertising their products. They took shipload after shipload of bananas and other fruits, brought them to our ports, to New Orleans and

other places, and shipped carloads of them all over this country and distributed them free to consumers and to grocers, to be delivered to the country people. They got the people to using the bananas, and consequently to-day that company is enormously prosperous and paying a good dividend on its ordinary stock. I say that that is the way business men handle a thing of this sort. We have got to get into some such thing, try to educate the people as much as we can to a greater consumption of fruit. We are raising less than twenty millions of barrels of apples a year, with a population of over eighty millions. That is the reason that bananas and oranges are cheap, because they are apparently plenty, and the people are using them. We ought to raise and sell a good many more apples than that number of barrels a year with such a population as we have got. But apples are high to-day, running from sixty to seventy-five cents, and even a dollar a dozen for some of the best grades. We have got to educate the consumers to eat more, and we have got to raise more of them to meet that demand.

THE TOASTMASTER: Before we adjourn we must hear from the new President of the Connecticut Poultry Association, Mr. W. O. Rogers of Norwich.

MR. ROGERS: Mr. President, Ladies and Gentlemen: I want to say that it gives me great pleasure to stand up here this evening and say just a word to you. I thank you, Mr. President, for inviting me to this meeting. I feel as if I had received a great deal here to-night. I believe that all the New England states have been heard from except Vermont. I do not believe that Vermont has been represented. I was a little anxious for fear that New Hampshire would not be represented, but it has been represented by the gentleman on my right, Mr. Sanderson. I was originally from New Hampshire, the good old Granite State. I believe it is one of the best states in the Union. Still, Connecticut is just as good. Connecticut has been my state for twenty-five years, and I

hope that I may be able to stay here for twenty-five years more.

Now in regard to poultry and fruit growing,—they both go together. The poultry industry and fruit growing, I assure you, are two of the winning farm industries. In the institutes which have been referred to our Poultry Association has worked along the line of this Society. I assure you, friends, that I have a great deal more respect for the old apple tree after hearing what I have heard to-day than I ever had before. I feel like taking my hat off to one of these venerable trees. Brother Hale came down to Norwich to talk to us, and I assure you that he waked them up down there. He can do it. He is a first-rate speaker, and we fully appreciated his efforts.

Mr. President, I thank you for calling upon me.

THE TOASTMASTER: Reference has been made to Vermont. I am sorry to say there is no one here to represent Vermont, but there is one state adjoining us, the great state of New York, that has not been heard from, although there is a gentleman representing the Western New York Horticultural Society, Mr. John Hall, its efficient Secretary, and we would like very much to hear from him.

MR. HALL: Mr. Toastmaster, it has been my intention not to make any speech at all, but I want to say that I must congratulate my friend Miles upon the great success you have achieved in this meeting, and say to him that he is a mighty smooth Secretary.

At the recent meeting of the Western New York Horticultural Society, we had a registered membership of 1250 at that meeting. Of course, we are fifty-five years old. When you get to be fifty-five you will have traveled "Miles" away from where you are now.

I have heard to-day quite a number of statements in regard to the progress of horticulture, but before the speakers got through they all got around to one point,—that we must *pack better*. You will hear that cry, friends, all the way

from Chicago to the seaboard. It is a good thing. It shows we are waking up. I have heard it in the west, and I have heard it again here. Michigan is waking up. They have had a great exhibit out there; and I believe before long we shall cease to hear very much about western competition. I think we can raise the very best class of apples in New England and in New York state, and with good packing, and good care generally of the orchards, we shall cease to hear anything about our Middle States markets. They will be able to find a market for their apples on the Pacific Coast.

I thank you for this opportunity to bring you the greetings of the old Western New York Horticultural Society. (Applause).

THE TOASTMASTER: Ladies and gentlemen, I wish to thank you for your attention this evening and thank all our visiting friends whose presence and kind efforts we sincerely appreciate. As there is nothing further on the program, the meeting will stand adjourned.

The evening's festivities were brought to a close about 10.30 and the company broke up amid much applause and enthusiasm, and it was the unanimous expression that the Society's second annual banquet had been the most enjoyable feature in its history.

A few left for their homes, but the larger number remained in the city to attend the next day's sessions of the Convention.

## SECOND DAY.

Thursday, February 3.

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### MORNING SESSION.

The second day's session of the Annual Meeting was called to order at 10.00 A. M., Thursday morning, President Chas. L. Gold occupying the chair.

Another large crowd was in attendance and the interest continued unabated.

PRESIDENT GOLD: The meeting will now please come to order. We have present with us this morning Mr. James L. Cowles, of Farmington, who would like to occupy your attention for a few moments. I have told him that we would give him ten minutes. He has some good things to say about reform in the postal service. Please give him your attention for a few minutes.

Mr. Cowles of the Postal Progress League then made a vigorous and interesting address on postal reforms in the United States and advocated the passage of the bill now before Congress for the establishment of a Parcels Post. Later in the meeting a resolution favoring this bill was introduced and passed by the Society.

PRESIDENT GOLD: We have this morning several matters of business to attend to, and the first thing on our program is the annual report of the Secretary. Will you give your attention, and we will call for the report of Secretary H. C. C. Miles.

## Secretary's Report.

*Mr. President and Members of the Connecticut Pomological Society:*

Another year, with its seasons of budding, blooming, culture, growth and fruit harvest, is past, and we are again assembled in annual gathering.

For us as fruit growers it has been a year of varying success and failure; satisfactory as regards an abundant peach crop and yield of small fruits, only partially so with apples and other tree fruits. But, on the whole, we have much to rejoice over and may well feel encouraged as to the outlook for the future and the opportunities that invite us to still greater endeavor.

To benefit by past experiences and to gain new knowledge that shall help us in the coming year is the purpose of our present coming together, and I believe the splendid program as prepared for this meeting will fully meet this purpose and be of practical benefit to all participating.

During the year 1909 our Society has been active along many lines; it has been, perhaps, the most important, so far, in the history of the organization. Not only have our regular departments of work been kept up to the usual standard, but new lines of work have presented themselves and have been carried out successfully and for the upbuilding of the fruit growing industry of the state.

The outlook for Connecticut Horticulture was never brighter than it is to-day, and in the next few years our organization will surely have an unequalled opportunity to prove its usefulness.

The interest in fruit culture is widespread and continually increasing. The movement toward the country, the farm and the orchard is touching us on all sides, and it should be the duty of such organizations as the Pomological Society to assist and direct this movement along sane and intelligent lines.



Taking up in detail the work of the past year, I will first ask your attention to the report of

### Our Membership.

One year ago the total number of paid-up members in the Society was 515. During the year 89 new members have been added and the total number carried on the roll for the year was 619.

Seven deaths have occurred in the membership since the last annual report was issued. At the close of the year 1909, there were 90 members who had failed to renew their membership and these have been dropped from the roll according to the by-laws. Making these deductions, the total number of members in good standing February 1, 1910 is 529.

The deaths that have been reported to this office are as follows: L. A. Vibberts of New Britain; T. Morton Hills, Willimantic; D. E. Stone, Cheshire; C. P. Pease, Ellington; Huber Bushnell, Berlin; J. M. Hubbard of Middletown, James Hoyt of New Canaan.

While for several years past our membership list has been a large one, as compared with that of Societies in other states, yet of late it has not increased as rapidly as it should have done. The plain fact of the matter is, our gain from year to year is not much, if any, more than the loss. Some losses are to be expected, and are only natural in an organization of this kind, but the gain in new members should be more carefully looked after and made larger. Have we of late been overlooking this matter of extending our membership on account of the press of other work that seems more important? If so, let us give it more careful attention and do so at once, for the strength of the organization must depend on its numbers.

The larger our membership the greater will be our power and influence throughout the state. I trust our membership committee will have some sure plan to suggest for increasing the membership, but in any case let each one of us

consider *himself as a membership committee* and strive to bring at least one new member into the Society the coming year. A word from you to some neighbor or friend who is interested in fruits will bring greater results than all the work of the Secretary's office or any special committee. One thousand members is not too high an aim to set, and if each will do his part this can be quickly accomplished. Friends, let our watchword be "*Keep up your own membership and secure one new member every year.*"

This is important if we would have the Society reach its highest usefulness.

Included in the total membership above mentioned we have 18 life members. This number should be largely increased and the older fruit growers, especially, should look upon it as a privilege and a duty to become life members of the organization, and thus feel assured that when their life's work is done, their influence and support of the Society and its work is perpetuated. May we not enroll 100 life members before the close of another year?

### Our Finances.

From February 1st, 1909, to February 1st, 1910, I have received and paid over to the Treasurer:

From Annual Membership Fees .....	\$518.00
From Life Membership Fees .....	60.00
From Sales of Fruit at Exhibitions .....	20.10
Total .....	<hr/> \$598.10

I have drawn orders for the payment of bills amounting to \$2,435.79.

These expenditures are classified under the following heads:

Annual Meeting of 1909 .....	\$593.43
Annual Report .....	494.60

Annual Exhibition:	
Running Expenses .....	168.49
Premiums .....	370.90
Crop Reporting .....	5.64
Institute Work .....	131.27
Field Meetings .....	54.46
Secretary's Office:	
Expenses and Supplies .....	169.00
Salary, balance of year 1908 .....	100.00
Salary on account of 1909 .....	150.00
Miscellaneous Printing, Advertising, etc. ....	72.81
Sundry Expenses and Expenses of President's Office.....	72.65
<hr/>	
Total .....	\$2,435.79

### Meetings.

Following the Annual Meeting in February, the Society held during 1909 ten Institutes, two summer Field Meetings,—one at the large peach orchards of the Barnes Brothers, in Durham, on August 6, the other a splendid two-days' gathering at the Connecticut Agricultural College at Storrs, August 24-25; a third Field Day was planned for at the Hale & Coleman orchards in Seymour, but stormy weather prevented holding it; and the Twelfth Annual Fruit Exhibition held in connection with the State Fair at Berlin, September 14-17.

Each of these events was carefully arranged, thoroughly advertised and largely attended by our members and other farmers and those interested in fruits.

Your Executive Committee has met frequently throughout the year, and with the help and counsel of interested members, has been able to plan and execute the Society's work with much success and to the advantage of the membership and the state at large.

Of the Annual Exhibition it may be said, in brief, that once again the fruit growers of Connecticut demonstrated their ability to bring together a magnificent show of fine fruits and this in spite of the short and rather poor apple crop.

The display at Berlin was fully up to the Society's usual high standard and showed the progress our growers are making in the production of perfect fruit. Three hundred and seventy-five dollars and fifteen cents was awarded in prizes, among fifty-three exhibitors. The show formed one of the greatest attractions of the State Fair, and the keen desire of the various fairs in the state to secure our exhibition is proof of its popular value. The 1909 exhibition was of special help in securing exhibits for our display at the New England show later in the season.

### Institute Work.

During the past year the Farmers' Institute work in the state has received its full share of attention. Our Society, for its part, has carried out eleven Institutes, as follows: Monroe, March 9; Bloomfield, March 16; Orange, March 17; Bolton, March 19; Cheshire, March 24; Wilton, March 25; Danbury, March 26; Milford, March 30; Morris, March 31; Thomaston, April 6, and Northfield, January 21, 1910. In addition we have furnished speakers for Institutes held by other State Societies and have been frequently called upon to supply lecturers on fruit topics for meetings of the Granges. This latter call we have been glad to respond to, as it shows the growing desire for information along fruit-growing lines. A goodly number of Institutes are being arranged for the remainder of the present winter.

The plan of coöperation in Institute work by the several state agricultural organizations is still in force and has its good features. A closer union of these agencies and earlier and more careful planning of the work is needed to make our Farmers' Institutes what they should be,—one of the most powerful educational forces in Connecticut agriculture. Every thought of friction, every personal jealousy and prejudice must be put aside if we would do our full duty to the whole state in this important matter.

### Crop Reports and Marketing.

The abundant peach crop of 1909 found this Society prepared to take up the work of gathering reliable estimates of the size and location of the fruit crop. The figures showed a total yield of nearly half a million baskets of peaches, and being made available for the railroads and fruit buyers, assisted materially in transporting and marketing the crop to good advantage.

As planting of orchards increases and the size of crops becomes too large for profitable sale in nearby markets, this crop report service must necessarily be extended and improved, and cannot help but prove of the greatest value to the grower. If every fruit grower in the state could realize the good results from crop reports and would send in his estimates promptly, when requested, the value would be even greater.

### Annual Reports.

Volume XI of the Society's Annual Report was prepared and issued during the year. With its complete proceedings of the Annual Meeting, a record of the year's work and timely articles on various phases of fruit culture, it proves a reliable reference book for all who receive it, also as a yearly record of the progress of Horticulture in Connecticut it is, I believe, highly valued, as shown by the increasing demand for it from other states, and many who expect to engage in the business of fruit growing in our state rely upon it as a trustworthy guide.

We have recently entered into an agreement with the Connecticut Farmer, by which that paper will be sent regularly to our members, the Society paying a small amount for this service. In thus supplying helpful literature to our members we trust it will result in disseminating practical and timely information on all lines of fruit growing, as well

as prove a medium of frequent communication between the organization and its membership and assist in building up our Society and the Farmer, which, under its present management, is being made a worthy representative of Connecticut agriculture. Our fruit growers are invited and expected to make use of its columns in exchanging ideas and suggestions concerning pomology, and we should all feel it a duty to contribute to and support our own state paper.

### New England Fruit Show.

This was perhaps the most important event of the year just closed for fruit growers, and the part that Connecticut played therein was the most important work accomplished by this Society. Conceived and organized "to promote fruit growing in New England," the Show was a distinct success and accomplished even more than was hoped for.

Never before had such a practical demonstration of New England's resources and possibilities as a fruit-growing section been given. Her own people were astonished at the magnificent showing of fruits made by each state, at the beauty and high quality of the exhibits and the market value and extent of our fruit crops, and this, even in a season of unfavorable crop conditions. The interest aroused through this Exhibition was most remarkable and is still strongly manifest. We are only just beginning to realize the good results of the undertaking.

As is well known, Connecticut occupied a prominent place at the Boston Show, and our fruit growers did themselves proud and won great credit for our state. Our fruit, in quantity, filled a large space, and in quality compared well with that from any other section of New England, as proved by the fact that thirty-five premiums were awarded to Connecticut fruit, besides two silver cups and several medals.

The Pomological Society was entrusted with the work of preparing and arranging the exhibit from this state, a special appropriation of \$500 granted by the last General Assem-



bly, supplemented by gifts from interested citizens and funds from the Society, being sufficient to finance the undertaking and complete it with marked success. But to the growers who produced the splendid fruit and responded to the call for exhibits belongs the chief credit for Connecticut's fine display. The Agricultural College also furnished a valuable exhibit for the Connecticut space. Our officers, committees and members, including the ladies, worked hard for the success of the undertaking, and feel that the results were well worth all the time and labor expended. Cost to collect, install and maintain, \$1,068.54.

### Publicity Campaign.

Realizing that the interest in fruit growing aroused by the New England Show had created an unequalled opportunity for exploiting the advantages of our state for the production of fruits, the Society's Publicity Committee and your officers decided last fall to start an advertising campaign, and with the aid of the press, the railroads and others, to direct public attention to the undeveloped possibilities in the line of orcharding and fruit culture for both profit and pleasure.

The numerous inquiries coming from business men and others in our own state, and even outside the state, would seem to call for the publication of reliable information regarding best locations, available lands and proper methods of planting and culture, for those desiring to go into the business of fruit growing, and also to arouse our farmers and fruit growers to extend their plantings and make fruit culture a more important industry in the state than it is at present. We are already assured that our efforts in this direction will meet with popular favor and that we shall have the hearty coöperation of those who love fruits and are anxious to see the development of this branch of Connecticut farming.

A complete account of this proposed work will be given you in the report of the Publicity Committee, and I will only



SNAPSHOT OF THE STAGE AND ITS DECORATIONS, ANNUAL MEETING OF 1910  
And Some of the Newly Elected Officers and Committees are Grouped in the Background.



add that among the suggestions to be carried out in the near future will be the making of an accurate census of the fruit industry of Connecticut to ascertain the progress made during the past decade and to suggest wherein lies the opportunity for further profitable development. At present there is very little data to be found in this connection, while the demand for it is apparent. When this work is taken up let us all coöperate and help it along, for it means much to us in a business way.

Thus we, as an organization, stand at the beginning of a new year, face to face with many responsibilities and much important work waiting to be done. If we judge of the future by what has been accomplished in the past, we shall prove equal to the task, and by working unitedly shall be able to carry forward the gospel of better fruit growing and more general use of fresh fruits, for the welfare of ourselves and the prosperity of the state.

In the coming days many will look to our Society for inspiration and guidance and to "point the way to success" in fruit culture. Let us see to it that the organization does not disappoint them!

In conclusion: The work of the Secretary's office is increasing each year,—perhaps the best evidence of the Society's activity—and without the cordial support and forbearance of my fellow officers and members very little can be accomplished. This support I have always had, and I thank you sincerely for it. May the same spirit of good fellowship and helpfulness attend our future efforts and may "your every good word and work be blessed with abundant harvests of joy," prosperity and success.

Respectfully submitted,

H. C. C. MILES, *Secretary*.

Milford, Jan. 31, 1910.

PRESIDENT GOLD: You have heard the Secretary's report; what is your pleasure?

A motion that the Secretary's report be accepted and placed on file was made, seconded and passed.

PRESIDENT GOLD: Before going further I wish to call attention to this box of apples. (The President indicated a box upon the stage). They came from the state of Maine. They were sent down here by Mr. Geo. W. Staples, one of our members, and it will pay you all to give a careful look at these apples. I think they are some of the handsomest Northern Spies that we ever looked at. Mr. Staples was present at the Fruit Show in Boston, and exhibited some very fine fruit there.

The next report is a report from our Treasurer, Mr. Orrin Gilbert.

TREASURER GILBERT: Mr. President and Fellow Members of the Connecticut Pomological Society: There are about ten pages of your Treasurer's report altogether, and I do not believe anybody wants to listen to it this morning. I can give you a general statement off-hand of the condition of the funds. February 4th, 1909, there was a balance on hand of \$177.88. I have received from annual memberships \$518; the appropriation from the state, \$1,550; from all other sources, \$339.05, making the total receipts \$2,584.02. I have paid out on orders of the President and Secretary \$2,435.79, leaving a balance on hand to date of \$148.23.

On account of the New England Fruit Show, the state, you will remember, appropriated \$500; from other sources I have received \$568.54, making the total receipts on that special account \$1,068.54. I have drawn out on orders of the Secretary and President, \$1,068.54. That account balances exactly.

With the addition the past year of \$50 and the interest added, we now have in the Berlin Savings Bank, \$247.68. There is in hand \$10, which was received too late for deposit, making the total of our invested fund \$257.68.

## Treasurer's Report.

FOR YEAR ENDING FEBRUARY 1, 1910.

ORRIN GILBERT, *Treasurer*,

*In Account with* THE CONNECTICUT POMOLOGICAL SOCIETY.

1909.	Dr.
Feb. 4. To Balance .....	\$177.88
Cash from Sales of Fruit, Annual Meeting,	
per L. C. Root .....	4.90
from Annual Membership Fees, from	
Secretary Miles .....	298.00
16. from C. L. Gold, credit on hotel bill ...	6.00
22. from Sales of Fruit, Annual Meeting,	
per L. C. Root .....	4.00
Mch. 18. from State Appropriation .....	306.18
from Annual Membership Fees, from	
Secretary Miles .....	25.00
Apr. 30. from Annual Membership fees, from	
Secretary Miles .....	27.00
Aug. 6. from Annual Membership Fees, from	
Secretary Miles .....	10.00
Sept. 1. from Annual Membership Fees, from	
Secretary Miles .....	33.00
from State Appropriation .....	384.77
17. from Berlin Agricultural Society .....	100.00
from Sales of Fruit, 12th Annual Exhi-	
bition .....	11.20
from Annual Membership Fees, from	
Secretary Miles .....	28.00
Oct. 8. from State Appropriation .....	430.60
Nov. 11. from State Appropriation .....	1.78
Dec. 6. from Annual Membership Fees, from	
Secretary Miles .....	30.00
17. from State Appropriation .....	426.76
1910.	
Jan. 18. from Comptroller's order, account State	
Board Agriculture, Fair Fund .....	201.29
25. from Annual Membership Fees, from	
Secretary Miles .....	49.00
31. from Space Rent of Hall, Annual Meet-	
ing .....	9.00



from Secretary Miles, Annual Member- ship Fees .....	18.00
from Prepaid Express Charges Collected	1.66

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\$2,584.02

1909.		Cr.
Feb. 4.	By Check to Prof. H. A. Surface, expenses and services speaker, Annual Meeting ...	\$37.15
	Geo. C. Comstock, expenses as assist- ant secretary, Annual Meeting .....	4.00
	W. W. Farnsworth, expenses as speak- er at Annual Meeting .....	44.40
	W. E. Waller, services and expenses as assistant to secretary, Annual Meet- ing .....	4.50
10.	The Garde (hotel), hotel bills of speakers, officers and committees, Annual Meeting .....	72.50
16.	Jno. Coombs, for plants and decorations for stage, Annual Meeting .....	6.50
	R. S. Bascom, express charges paid on exhibits, etc., Annual Meeting .....	1.67
	H. C. C. Miles, Secretary, expenses and supplies for 18th Annual Meeting...	8.10
	New Dom Hotel, hotel bills of speak- ers, etc., 18th Annual Meeting .....	9.75
	The Whitehead & Hoag Co., member- ship and officers' badges for 1909....	18.16
	Prof. F. C. Sears, expenses and servic- es, as speaker at Annual Meeting....	11.70
	R. S. Bascom, express charges and services, Annual Meeting .....	8.67
	Chas. H. Field, Treasurer, rent of Unity Hall, Feb. 2, 3, 4, for Annual Meeting	70.00
	The Rex Sign Co., sign cards for An- nual Meeting .....	1.75
	Chas. L. Gold, traveling and other ex- penses as President, Oct. 8 to Feb. 1, 1909 .....	51.88
	The Tuttle, Morehouse & Taylor Co. printing annual meeting programs and membership receipt books .....	24.25

	Clarence H. Ryder, printing tickets for banquet .....	3.00
	L. C. Root, expenses as exhibition committee to Feb. 4, 1908 .....	4.30
	Clarence H. Ryder, printing letterheads for officers' use .....	3.25
	N. Y. Draft, Prof. John Craig, traveling expenses and services at Annual Meeting .....	28.93
22.	H. C. C. Miles, Secretary, office expenses and supplies, Dec. 1, 1908, to Feb. 15, 1909 .....	33.77
	H. C. C. Miles, Secretary, fourth payment salary, account year 1908 .....	50.00
Mar. 5.	Clarence H. Ryder, printing 400 programs, Southington Institute .....	2.25
5.	P. Berry & Sons, storage, cartage and expressage on fruit for Annual Meeting .....	13.05
	Mabel L. Hatch, for orchestra at banquet .....	13.00
	Money order, Kellogg Food Co., supplies for annual banquet .....	7.20
	Check to Hartford Y. M. C. A., rent of Jewell Hall for banquet .....	26.00
	Mrs. E. W. Ellison, fruit supplied for banquet .....	3.00
	L. C. Root, expressage and supplies account banquet .....	5.65
	H. E. Savage Sons, apples for banquet .....	8.85
	Arthur A. Moses, apples supplied for banquet .....	8.00
	Conyers Manor, expressage and apples supplied for banquet .....	14.40
	J. Eames & Sons, supplies for banquet .....	8.00
	N. H. Sherwood, flowers and decorations for banquet .....	8.50
	E. Rogers, supplies for banquet .....	14.80
	C. L. Gold, balance of caterer's bill...	56.45
	E. Rogers, expenses attending two institutes .....	8.00
7.	Cash to H. I. Spaulding, services and expenses of lantern, Annual Meeting..	19.70

13.	Albert T. Repp, expenses attending 18th Annual Meeting as speaker ....	10.00
	Check to The Milford Post Office, stamped envelopes, etc., for Institutes .....	10.36
	H. C. C. Miles, Secretary, office expens- es and supplies, Feb. 15 to April 1, '09	33.12
	Kilborn Brothers, envelopes for So- ciety's use .....	2.75
30.	H. C. C. Miles, telephone charges in Secretary's office, Jan. to April, 1909.	17.50
May 1.	E. M. Ives, apples supplied for use at Annual Meeting .....	2.50
	N. Y. Draft to Miss G. S. Smith, re- porting proceedings Annual Meeting.	50.00
June 4.	Prof. C. S. Phelps, travelling expenses and services as speaker 4 Institutes.	25.35
	The Milford Citizen, printing Institute programs, etc. ....	9.75
	Prof. C. D. Jarvis, expenses attending Institute .....	2.25
	Dr. E. H. Jenkins, expenses self and Dr. Clinton, attending 3 Institutes..	3.65
	H. B. Cooke, expenses attending Dan- bury Institute .....	1.00
	Dr. W. E. Britton, travelling expenses attending Institutes, 1909 .....	1.70
	Prof. A. G. Gulley, Institute and other travelling expenses, March, 1909.....	6.15
July 10.	H. C. C. Miles, Secretary, final payment on salary account year 1908 .....	50.00
Aug. 3.	Prof. A. T. Stevens, travelling expens- es attending Institutes .....	8.71
Sept. 2.	The Milford Post Office, stamped en- velopes for mailing programs .....	24.01
	H. C. C. Miles, Secretary, supplies, ex- penses and telephone charges, Secre- tary's office, Apr. 1 to Sept. 1, '09...	38.65
	H. C. C. Miles, Secretary, first payment on salary, account year 1909 .....	50.00
	Clarence H. Ryder, balance printing, etc., adv. programs, Annual Meeting.	8.82
	Clarence H. Ryder, printing receipt blanks and programs of 5 Institutes.	16.05

11.	J. H. Putnam, expenses as speaker at Institutes, 1909 .....	9.39
	Clarence H. Ryder, printing field meet- ing notices, Aug., 1909 .....	10.50
	The Moffatt Paper Goods Co., enve- lopes for mailing premium lists ....	2.00
16.	Geo. C. Comstock, Travelling expens- es as membership committee at In- stitutes .....	2.30
	Geo. C. Comstock, expenses and servic- es as entry clerk at 12th Annual Fruit Exhibition .....	7.00
17.	L. M. Cowles (Kilby Hotel), hotel bill of helpers at Annual Exhibition, Ber- lin, 1909 .....	16.00
22.	Ryder's Printing House, payment on account printing Annual Report for 1909 .....	150.00
	J. Sutta, for making 60 premium rib- bons for Annual Exhibition .....	6.00
	Prof. S. T. Maynard, expenses and ser- vices as judge at 12th Annual Exhi- bition, 1909 .....	13.90
	Wilfred Wheeler, expenses and servic- es as judge at 12th Annual Fruit Exhibition .....	11.00
	Edwin C. Powell, services as judge at 12th Annual Exhibition .....	5.00
Oct. 6.	Allen B. Cook, expenses and supplies as committee for Annual Exhibition.	8.07
	A. G. Gulley, expenses on account An- nual Exhibition, Berlin, 1909.....	22.05
	H. C. C. Miles, supplies and expenses on account 12th Annual Exhibition..	15.50
	Clarence H. Ryder, printing 1,000 pre- mium lists, Annual Exhibition .....	12.00
7.	Money order, The Fair Publishing House, entry and judges' books for Annual Exhibition .....	2.60
9.	Check to Clarence H. Ryder, balance of bill for printing Annual Report of 1909 .....	264.85

18.	Charles L. Gold, travelling and other expenses of President's office, Feb. 1 to Oct. 1, 1909 .....	66.73
	The Garde Hotel, hotel expenses of judges account Annual Exhibition..	4.05
	Joseph R. Clark, printing and supplies, Jan. 1 to Sept. 1, 1909 .....	43.25
Nov. 4.	Milford Post Office, stamps and stamped envelopes for mailing Annual Report .....	24.87
11.	H. C. C. Miles, Secretary, 2d payment on salary account year 1909 .....	50.00
27.	Stancliff Hale, expenses attending 3 Institutes, winter 1909 .....	3.20
	Berlin Agricultural Society, F. L. Wilcox, Treasurer, for express charges paid on account exhibits for Annual Exhibition .....	15.66
	The Blanchard Printing Co., printing exhibit cards for Society's exhibit, New England Fruit Show .....	1.25
	Clarence H. Ryder, printing information circulars for New England Fruit Show .....	4.00
	Clarence H. Ryder, printing exhibit cards and 1,000 circulars, adv. New England Fruit Show .....	7.75
	Kilborn Bros., mailing envelopes for Annual Report .....	3.50
Dec. 6.	H. C. C. Miles, Secretary, office expenses and supplies, Sept. 1 to Dec. 1, 1909 .....	37.61
	N. S. Platt, expenses collecting fruit for New England Fruit Show .....	1.25
18.	Clarence H. Ryder, printing circulars for Annual Exhibit .....	3.00
21.	Premiums paid as awarded at Annual Meeting, as follows:	
	E. M. Ives .....	\$6.50
	H. E. Savage Sons .....	2.75
	F. D. Rogers .....	1.50
	A. A. Moses .....	1.00
	E. E. Brown .....	2.25

W. A. Stocking & Sons .....	1.25
L. H. Warncke .....	.50
C. L. Clark .....	.25
Arthur J. Clark .....	.25
W. T. Coe & Son .....	.50
Dennis Fenn .....	.50
R. F. Underwood .....	.25
G. A. Drew .....	.50

18.25

31.	Cash and check, balance carried to special	
	New England Fruit Show account ..	38.29

1910.

Jan. 1.

Premiums paid as awarded at 12th  
Annual Fruit Exhibition, 1909, as  
follows:

Geo. H. Griffith .....	\$8.75
Jas. P. Hull .....	3.40
Geo. H. Hale .....	2.00
Willis A. Lane .....	2.25
H. O. Griswold .....	13.00
F. B. Bailey .....	10.00
A. B. Cook .....	9.75
Gulley & Bonner .....	3.25
R. C. Wilcox & Sons .....	3.75
Clarence H. Savage .....	10.00
Mrs. F. B. Bailey .....	19.75
Chas. I. Allen .....	19.50
L. J. Robertson .....	6.25
H. B. Buell .....	1.90
J. H. Putnam .....	9.75
Joseph Albiston .....	8.50
T. H. & L. C. Root .....	25.25
Geo. C. Comstock .....	2.00
Geo. F. Platt .....	4.75
Geo. W. Smith .....	8.00
Lyman Payne .....	4.00
High Rock Mountain Orchards Co. ....	1.50
J. B. Parker .....	3.90
Miss Alice Fawthrop .....	2.75
Albert Bernhard .....	17.75
Dennis Fenn .....	1.55
Mrs. Huber Bushnell .....	1.00



	A. J. Pierpont .....	1.50	
	H. E. Savage Sons .....	44.75	
	W. H. Baldwin .....	1.00	
	Thos. Callahan .....	3.00	
	Jacob Beisiegel .....	2.00	
	Mrs. Harvey Jewell .....	11.00	
	H. P. Deming .....	2.70	
	Chas. E. Lyman .....	2.20	
	W. E. Tillinghast .....	3.15	
	W. H. Fuller .....	1.50	
	C. L. Gold .....	5.25	
	Arthur J. Clarke .....	8.15	
	Josiah M. Hubbard, Est. ....	5.00	
	Harvey Jewell .....	1.75	
	G. A. Drew .....	24.15	
	C. A. Barker .....	2.50	
	H. C. C. Miles .....	5.50	
	E. W. Dyer .....	2.50	
	Mrs. E. W. Ellison .....	36.25	
	Chauncey Griswold .....	.25	
	A. L. Hitchcock .....	.50	
	P. J. Kilduff .....	.65	
	E. Pomeroy .....	.20	
	N. S. Platt .....	.75	
	F. E. Tucker .....	.50	
		<hr/>	370.90
12.	Check to H. C. C. Miles, Secretary, 3d payment salary account, year 1909..		50.00
	Union Tea Co., rent of plates for An- nual Exhibition, 1909 .....		8.40
25.	Cash to Adams Express Co., expressage account Annual Meeting .....		3.50
26.	Milford Post Office, stamped enve- lopes and stamps, mailing Annual Report .....		12.62
	The Best Mfg. Co., printing calendar pads .....		5.80
	Hunn & Tuttle Colortype Co., print- ing 800 adv. calendars for Annual Meeting .....		8.00
	H. C. C. Miles, telephone charges, Sec- retary's office, Oct. 1 to Jan. 1, 1910.		8.35
Feb. 1.	Balance .....		148.23
		<hr/>	\$2,584.02

## Special Account, New England Fruit Show.

1909.		Dr.
Oct. 9.	To Cash from State of Connecticut, on account appropriation for Connecticut's Exhibit .....	\$177.58
Nov. 11.	Cash from State of Connecticut, balance appropriation .....	322.42
30.	from private subscription .....	100.00
	from private subscription .....	10.00
	from private subscription .....	50.00
	from sales of apples at Boston .....	315.75
Dec. 6.	account freight, J. H. Hale Co. ....	4.50
28.	from C. L. Gold .....	50.00
	from Society's general account, to balance special account .....	38.29
		<hr/>
		\$1,068.54

1909.		Cr.
Oct. 11.	By Check to C. L. Gold, President, cash advanced for expenses in Boston, account New England Fruit Show....	50.00
	Secretary H. C. C. Miles, cash advanced for expenses in Boston, account New England Fruit Show....	75.00
18.	Milford Post Office, stamps for mailing premium lists .....	38.36
	Hartford Cold Storage Co., storage, freight, expressage on exhibits .....	88.90
	H. E. Savage Sons, fruit furnished for state exhibit .....	16.00
	Dennis Fenn, fruit for state exhibit...	22.30
	Linus W. Kirk, fruit furnished for state exhibit .....	20.00
	G. A. Drew, fruit for state exhibit ....	155.00
	Mark Bishop, fruit for state exhibit...	7.50
	Edson G. Davis, fruit for state exhibit.	4.00
	T. H. & L. C. Root, fruit for state exhibit .....	4.50
	Linden S. Abbe, fruit for state exhibit.	8.00
	R. C. Wilcox & Sons, fruit for state exhibit .....	3.00

	H. C. C. Miles, fruit for state exhibit..	1.25
	G. P. Read, supplies for wrapping and packing .....	2.05
Dec. 3.	Geo. F. Platt, fruit for state exhibit..	13.50
	Thos. Griswold & Co., fruit for state exhibit .....	12.00
	Prof. A. G. Gulley, account fruit, supplies and expenses, New England Fruit Show .....	71.20
	A. G. Gulley, fruit for state exhibit ...	33.00
	Gridley & Jennison, fruit for state exhibit .....	25.00
	L. C. Root, expenses as committee, attending New England Fruit Show ..	32.89
	E. Rogers, fruit furnished and expenses attending New England Fruit Show.	28.60
	Standcliff Hale, expenses attending New England Fruit Show .....	15.00
	H. C. C. Miles, expenses and supplies..	20.00
	C. L. Terrell, apples for state exhibit.	20.00
	N. Dwight Platt & Son, fruit for state exhibit .....	2.00
31.	J. H. Hale, apple barrels and cushions for New England Fruit Show .....	4.50
	C. L. Gold, travelling and sundry expenses, Mch. 1 to Oct. 1, 1909, account New England Fruit Show ....	99.75
	C. L. Gold, cash paid out, expenses, supplies and freight, account New England Fruit Show .....	195.24
		<hr/>
		\$1,068.54

### Summary (General Account).

Receipts .....	\$2,584.02
Expenditures—	
Premiums paid .....	389.15
Miscellaneous expenses .....	2,194.87

## Special New England Fruit Show Account.

## Receipts—

Special appropriation from State .....	\$500.00
Donated by individuals .....	160.00
Sales of exhibition fruit .....	315.75
Other sources .....	92.79

## Expenditures—

Fruit purchased, cold storage, freight, expressage, cartage, officers and committee's expenses, etc..	\$1,068.54
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## Available Resources.

Feb. 1, 1910. Invested in Berlin Savings Bank.	\$247.68
Cash in hand for deposit .....	10.00
	<hr/>
	\$257.68
Due on account state appropriation for year ending Sept. 30, 1910 .....	\$1,071.46
Balance in treasury .....	148.23

## Society's Permanent Invested Fund.

1909.

Feb. 1.	1.	Amount on deposit in Berlin Savings Bank ...	\$188.69
	9.	Deposit, 3 life membership fees .....	30.00
Apr. 15.		Deposit, 1 life membership fee .....	10.00
May 3.		Deposit 1 life membership fee .....	10.00

1910.

Jan. 1.	1.	Interest, for year ending Jan. 1, 1910 .....	8.99
	31.	Received 1 life membership fee .....	10.00

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 \$257.68

## Auditor's Certificate.

Hartford, Conn., Feb. 2, 1910.

We have examined the books, vouchers and accounts of the  
Treasurer, Orrin Gilbert, and find them correct—

GEORGE W. STAPLES,

ANDREW KINGSBURY,

Auditing Committee.

PRESIDENT GOLD: You hear the report of the Treasurer. What will you do with it?

A motion that it be accepted and placed on file was made, seconded and passed.

PRESIDENT GOLD: I will now call for the report of the Auditors.

MR. STAPLES: Mr. President. The Auditors have examined the books, vouchers and accounts of the Treasurer, Mr. Orrin Gilbert, and find them correct. If all those receiving money from our Treasurer would return at once the receipted bills, and then get their checks cashed within a reasonable time, it would save the Auditors lots of work, and make for better and clearer accounts.

PRESIDENT GOLD: Gentlemen, you hear the report of your Auditors: what is your pleasure?

Motion that the report be accepted was made, seconded and passed.

PRESIDENT GOLD: Reports of the Standing Committees are next in order. On account of the shortness of time, I am going to ask the members of these different committees, or most of them, at least, if they will hand in their reports to the Secretary for printing, we will dispense with the reading of them at the present time. Later on, if there is any information desired of these committees, they will be called upon to make remarks. At this time I wish to call upon the Publicity Committee for their report. I will call on Mr. Stancliff Hale, the chairman, to make the report for that committee.

## REPORTS OF STANDING COMMITTEES.

## Report of the Publicity Committee.

MR. STANCLIFF HALE: Mr. President, the Publicity Committee has been more or less active during the last year in conjunction with the officers of the Society. We have gotten together and discussed various things, but the greatest activity they have had has been in connection with the Boston Fruit Show. They did everything they could to advance the Show. After that we came home full of enthusiasm, and discussed some of the methods which we thought would advance the interests of Connecticut fruit growing and advertise our Society, and we have just had printed a little bulletin, which we have called "Publicity Bulletin, No. 1." That has been gotten up with the assistance of the Publicity Committee, and I will pass them around shortly. Another member of the Committee, Mr. Curtis, has worked up another bulletin which you have already seen. That has been of great value to us. That is all that the Committee has done at present, but they hope to do more by keeping up this same line of work. This little leaflet is intended to be used as an insert. A great many of us receive many letters of inquiry and answer them, and this is intended to be inserted in letters and sent out wherever it will do the most good, and so help to interest people in the fruit prospects of Connecticut. That is all I have to say, Mr. President. I will now pass these around, so far as they will go.

PRESIDENT GOLD: We want to hear just a word from Mr. Curtis, another member of the Publicity Committee.

MR. E. D. CURTIS: Mr. President, I do not think it is necessary to add anything to what Mr. Hale has already said, except to bring before the members the reason for



conducting this publicity campaign. It seems to me that the reason for that arises from the fact that in the western part of the United States,—and I do not know whether anyone here noticed a letter which was printed a few weeks ago summing up in the main the situation in the west, particularly Wisconsin. The author stated that agriculture did not amount to anything because the agriculturist had all that he could get. That is something, considering the paper that made that statement, and seems to me an indication of misrepresenting the facts in the west. There is no doubt but what agriculture in the east is on a higher plane generally than agriculture in the west. We hear about run-down New England farms. There are, undoubtedly, run-down New England farms because capital has changed a great deal in the last fifty or one hundred years, but I venture to say that on the whole the agricultural conditions and agricultural status in the east is higher than the average agricultural standing in the west. The only thing, we do not hear so much about what the agriculturalists are doing is because they are very largely acting as individuals and not as organizations, because they are doing more co-operation farming than they are in the east. Now the thing we have got to do is to get up and tell the western people what agriculture amounts to in the east. We are not fulfilling our duty to our own interests and to the State of Connecticut unless we are willing to carry on an active campaign against the misrepresentation which is now going on in the west against eastern agriculture and especially eastern fruit culture. It seems to me that what we have got to do is to practically get up a good loud “holler” in favor of eastern conditions, and the Publicity Committee would be very glad to hear from anybody as to any suggestions which can be made along that line.

PRESIDENT GOLD: You have heard the report of the Publicity Committee. Doubtless you have examined the leaflet which has been distributed by Mr. Hale. If there is.

no objection to the report of the committee it will be accepted.

A MEMBER: Mr. Chairman, I want to say just a word. I am a Wisconsin born man. Seven years ago I had the privilege of attending the state meeting held in the city of Oshkosh at that time, and if you could have been there and compared that meeting with the meeting held here to-day you would say that fellow from Wisconsin that Mr. Curtis has just referred to, that wrote that letter, ought to go away back and sit down and shut up. They were not in it.

MR. ROGERS: Mr. Chairman, I think it would be proper for this Society to extend a vote of thanks to the committee. I feel that they are on a line of work which is going to do a whole lot of good, and I, for one, would make that motion before this Society, that we extend a hearty vote of thanks to the committee for their work thus far.

Motion seconded and passed.

PRESIDENT GOLD: I have had a request to call for the reading of the report of the Committee on Injurious Insects. We will ask Dr. Britton to present the report.

## Report of Committee on Injurious Insects.

The season of 1909 was remarkable on account of the abundance of aphids of all kinds, and much damage was done to fruit trees in various parts of the state. The most serious injury to bearing trees was caused by the Rosy Apple Aphis, which is known in literature under various scientific names, such as *Aphis sorbi* Kalt., *A. pyri* Boyer, and *A. malifoliae* Fitch. Though the scientific identity of the insect apparently has not been established, the common name Rosy Apple Aphis is generally accepted and is an appropriate one. The damage in the southwestern portion of the state was so great that bearing trees made little growth and the leaves

curled, turned yellow, and dropped late in June. The fruit set fairly well, but failed to grow and was often gnarled and ill-shaped. We have made observations for two seasons on this insect, and now know that it does cause this damage to the fruit. It is suspected that there may be some connection between the attacks of aphids and the well-known Baldwin Spot" which develops later in the season. Though we have considerable evidence pointing in this direction, the proof is not yet complete. We had no difficulty in killing the aphids with kerosene emulsion made after the usual formula, when the liquid was brought into direct contact with the aphids, as is the case where a small branch is dipped into the emulsion. Of course, it is difficult to hit them with any spray after the leaves are curled, especially on large trees. Manys tests have been made with various sprays to kill the eggs, which are deposited on the twigs in the fall, and may be found around the buds. The oil mixtures are not very satisfactory for this purpose, and Professor Gillette states that the best substance which he has found for this purpose is the lime and sulphur mixture. As the eggs of the rosy apple aphid hatch early, just before the buds break open, this would seem to be the best time to make the application.

The Green Apple Aphid, which is also known scientifically by more than one name (*Aphis pomi* DeG. and *A. mali* Fabr.), was also present in many orchards, and checked the growth, especially on young trees and nursery stock. This aphid is green in color and is usually found on the under sides of the leaves or on the soft stems of the new growth at the ends of the branches. The rosy apple aphid can be distinguished by its pink or purple color, and works more especially on and around the fruit clusters on the inside of the tree. The green apple aphid remains throughout the season on the apple tree, while the rosy apple aphid migrates to some other host plant about the middle of July, though what plant it lives upon is not known. Late in November it returns to the apple and lays eggs, which hatch the following spring. These eggs are smaller, less abundant and

less conspicuous than those of the green apple aphid. The former are often hidden around the buds of the fruit spurs and the latter are usually found on the bark of the terminal twigs. The cherry aphid, *Myzus cerasi* Fabr., and the green peach aphid, *Myzus persicae* Sulz., were also abundant and did more or less damage, as did also many other species of aphids.

In spite of warnings given at this meeting last year and sent out from the Experiment Station, many apple orchards in the state were completely stripped by canker worms, and it was not until after the damage had been done that the owners were aroused over the matter. Nevertheless, a number of good demonstrations were made in various parts of the state where the owners protected their orchards satisfactorily by spraying. The result was good fruit and a good profit. All fruit growers who expect to get a crop are warned to spray early with lead arsenate next year, especially in those localities where the canker worm was abundant last season.

Red-humped caterpillars, *Schizura concinna* S. & A. and Datana caterpillars, *Datana ministra* Drury, have been common during late summer and fall and have stripped many small trees. The cherry or pear slug, *Eriocampoides limacina* Retz., has been sent in several times, and the hag moth, *Phobetron pithecium* S. & A., once. All of these feed upon the leaves and can be easily controlled.

The San José scale has been present in about the usual quantity, though in some orchards there are indications that it is becoming less virulent. The commercially prepared lime and sulphur mixtures are being used rather extensively and are fairly satisfactory. In general they should be used somewhat stronger or less dilute than the manufacturers advise.

The most important entomological fact that your committee can report at this time is the discovery of the gypsy moth at Wallingford, which was made known December 14th. This insect has been present at Stonington, where control measures have been enforced for four seasons, and the pest

has been almost exterminated there. We expected that it might appear at other places in the state, and have already investigated several reports,—each of which heretofore proved to be some other insect. This, however, proved to be the real thing. Men were set to work immediately to destroy the most obvious egg-masses to prevent the eggs from being scattered. Up to this writing about 6,000 egg-masses have been found and destroyed, 400 occurring on one tree. There has not yet been time to go over the whole region carefully to learn about the exact limits of the infestation, but the center of it is within the village, between the railroad and Main street, and it is hoped that the pest has not spread outside of the village, as there are important orchard and nursery interests not far away that would be seriously affected. Men are now at work, and it will be necessary to keep men at work continuously on this problem until the latter part of the summer, and it must be repeated each year for several years. There are many back yards to examine, some rubbish and several patched-up fences to be removed, and much spraying to be done next summer. There is a moderate sum of money available for the expenses of the campaign, but it will all be needed. We are determined to do everything that it is possible to do to exterminate this colony of the gypsy moth at Wallingford. It will take several years to determine the success of our efforts.

The bill which was introduced into the legislature last winter providing for a revision of the insect pest laws in order to better protect the interests of the state was reported unfavorably by the committee on agriculture. Similar bills were placed before the legislatures then in session of five of the New England states, with a view to uniformity. The legislature of Vermont had already adjourned before this bill was prepared. Massachusetts was the only state to pass the measure.

There is no provision for the Federal inspection of imported nursery stock, and anything can be shipped into this country from abroad. Last year thousands of winter nests

of the brown-tail moth, *Euproctis chrysorrhoea* Linn. were brought into the United States on nursery stock from France and were sent into a number of different states. Had it not been for the vigilance and courtesy of the inspectors of New York State, we should not have known about the matter until the pest had been distributed. But notice was sent to all states, and the stock coming into Connecticut was inspected so far as it could be traced. There were many packages, however, that could not be found. In all 224 boxes and packages of nursery stock shipped into Connecticut from foreign countries were examined, and 52 brown-tail nests were found and destroyed. It is hoped that some legislation, either state or national, will soon be enacted which will prohibit such stock entering without the proper inspection, the only reason, of course, being to safeguard the horticultural interests of the state against the introduction of serious pests.

Respectfully submitted,

W. E. BRITTON, NEW HAVEN, *Chairman*.

C. D. JARVIS, STORRS.

C. I. ALLEN, TERRYVILLE.

*Committee on Injurious Insects.*

PRESIDENT GOLD: Gentlemen, you hear the report of your Committee on Injurious Insects. What is your pleasure? If there is no motion or no objection it will be accepted and placed on file.

I will also call for the report of the Committee on Fungous Diseases, Dr. G. P. Clinton, Chairman.

DR. CLINTON: Mr. President, in order to save a little time, I will merely present my report for filing, and for publication in the proceedings.



## Report on Fungous Diseases for 1909.

By Dr. G. P. Clinton, New Haven.

The weather conditions of 1909 were on the whole such as to place this year along with 1907 and 1908 as one of our unusual years, especially as regards moisture. To start with, there were the severe ice storms of February, which did considerable injury to the trees, especially in the northern half of the state. Fortunately the fruit trees suffered less than the forest and shade trees.

The unusually wet and cold spring delayed the crops considerably, and at the same time gave a favorable start to certain fungous diseases, such as the scab and rust of apples and the leaf curl of peach, so as to make them unusually prominent during the season. The brown rot of peach, however, while getting a good start in the blossoms and young twigs at this time, was kept from doing unusual damage by the dry weather at harvest time.

Another trouble, apparently largely due to the wet spring, was the reddish-brown spotting of apple leaves. This trouble seems to be developed early in the season, perhaps on the leaves before fully matured. Ordinarily we have attributed this to the black rot fungus, which also commonly occurs on the twigs and in the matured fruit. However, it is only rarely that the fruiting stage of the fungus can be found on these leaf spots, so as to make its identification certain. Sheldon, of West Virginia, has recently reported a very similar injury from that state due to another fungus that we have never seen here. Still other fungi have been found on such spots and have been claimed as their probable cause.

Wet springs like that of last year also bring more or less injury from spraying with Bordeaux mixture, and this injury on the leaves is often scarcely to be distinguished from that caused by fungi when their fruiting stage is absent. The complaints from spray injury last year were more numerous

than usual, and can be attributed to the wet weather at spraying time rather than to any carelessness in mixing or applying the Bordeaux. Even half-strength Bordeaux during very wet seasons is likely to produce similar injury. Bordeaux mixture is undoubtedly our best fungicide, and about its only drawback is its occasional injury to the foliage and fruit. The lime and sulphur mixture that is now being tried may have advantage over the Bordeaux mixture in this respect, and should it prove as cheap and as effective as the Bordeaux this would be a big factor in its favor.

As you are aware, the summer, and especially the late fall, gave us dry spells somewhat similar in their effects to the droughts of 1907 and 1908. There was, however, enough rain during mid-summer to prevent serious injury to most of the crops, and the fall drought because of its lateness was not so serious to our crops as it was to our water supplies.

Among the serious fungous troubles of the year, the chestnut blight continued to attract attention over the state. The northern boundaries of this trouble have been extended, due either to the further spread of the trouble or to watchfulness of those on the lookout for it. Specimens have now been received from Bridgewater, Litchfield and Harwinton, and an unverified report of its presence comes from Salisbury. Specimens have also been received from as far north as Boston. In the eastern part of the state winter injury to the chestnuts, very similar to the blight, but without any signs of the fungus, has been seen at Versailles and Storrs. The writer holds that this fungus owes its vigorous development to the unfavorable weather conditions for chestnuts (such as winter injury and drought) that have prevailed during the past several years. The past season, therefore, was not unfavorable for its further development, especially in these localities where the trees suffered from the drought. On the other hand, the trouble is reported as not quite so prominent in Long Island and Stamford, this state, where the most serious injury was produced in the past three years.

Peach yellows and allied troubles have continued to be the cause of some alarm to certain of our peach growers. The paper that we presented on this subject before the Society last year and a later article in the Annual Report of the Connecticut Agricultural Experiment Station have attracted some attention over the peach growing districts of the United States because of the unusual views set forth. Some of the comments we have heard have been favorable to these views and some unfavorable. We wish it understood, however, that we have given these opinions, not as a hobby to be ridden at all hazards, but to our mind, as the most elucidating explanation of what is actually known to-day concerning these obscure troubles. If anyone can definitely prove that peach yellows or little peach is due to bacterial germs, as believed by some, we will welcome the proof as readily as the next one. However, we have not seen or heard of anything to date to modify our views previously given. In order, if possible, to throw more light on the subject, we have started surveys, as suggested in our last report, of three orchards, and expect to follow up the history of each tree for several years to come. We may add two or three more orchards to these the coming season. We have also undertaken certain experiments relating to the possible contagion of this disease, and with Dr. Jenkins have started a comparative test with fertilizers to determine their effect on the health and bearing of trees, in one of Mr. Barnes' orchards. We shall be glad to receive any information the coming season regarding outbreaks of yellows, and if possible visit the orchards so affected.

While the musk melon crop of the state was not on the whole as good as the previous year, there were still grown a good many melons of superior quality. The different fields, however, were very uneven in their results, some giving crops of fair size and good quality, and others being cut off in their prime. The drought injured some of the fields, but the chief cause of failure was the leaf mold fungus. The downy mildew, or real blight fungus, did no harm so far as observed. Spraying, where carefully done, gave better results than usu-

al, the character of the season and the nature of the fungus being largely responsible.

During the past two years we have had unusual opportunities to study the fungous diseases of the Brown-tail and the Gypsy moths, so that we are in a position to make use of this knowledge in case it becomes desirable to combat either of these pests in this state by means of these parasites.

With Dr. Britton and Mr. Ives of Meriden, some studies have been made during the past two years on the malformation of young apples and the Baldwin Spot of the mature fruit, as possibly due to the attacks of the Rosy Apple Aphis. It is now quite certain that the malformation is due to this aphis, and there is some ground for belief that the Baldwin Spot also bears some relationship to it. The past season Mr. Ives saved apples from a tree, the interior of which was infested with this aphis, and the exterior limbs were free from it. According to his report up to date, only 5 out of 126 apples, or 4 per cent, from the exterior part of the tree have developed the spot; while 124 out of 290, or 43 per cent, from the interior now show the spot. Further data, however, are necessary to definitely prove the supposed relationship of this aphis to the Baldwin Spot.

PRESIDENT GOLD: We will next have the report of the Committee on Membership, Mr. G. C. Comstock, Chairman.

## Report of Committee on Membership.

Your Committee on Membership wish to report briefly on this subject, and can say that while we are holding our own as to members, and with a slight increase over our membership of one year ago, the advance along this line has not been real satisfactory. You all know that it has been an ambition with our worthy Secretary, as well as all your officers, to reach the 1,000 mark in membership. You can not expect this to be accomplished by the simple efforts of a

Committee of three members, who, living at widely separated points in the state, rarely ever to get together, except, perhaps, at our annual meetings. At this time there is so much business to be turned off that a two-day session is not sufficient time to canvass and talk up membership with those who ought to be enrolled on our list, and get all the benefit belonging to Connecticut fruit growers. As your Secretary has stated in his report just now, each member should resolve himself into a committee of one to see to it that he gets at least one new member during the year. Fellow members, this can be done easily. Just see what an impetus would be given the work of the Society throughout the State if each of you did this. Among our members we have 18 life members. Why can this not be increased to 100? Our appropriation from the state is so small that the help that can be given by each individual member in getting new members will be of immense value in increasing the finances of the Society, so that more and better work can be done in the future. In addition to this personal work that can always be done by the members, your committee suggests and recommends that the members of the committee be increased to eight, and that there be one appointed from each county. That this committee confer together from time to time and report to the Secretary at stated times through the year.

GEO. C. COMSTOCK,

A. T. HENRY,

W. E. WALLER.

*Membership Committee.*

PRESIDENT GOLD: What is your pleasure to do with this report?

Motion made, seconded and passed that it be accepted and placed on file.

PRESIDENT GOLD: If there is anybody present who is not a member of the Society, the Committee on Membership, or the Secretary, would be very glad to receive your appli-

cation. The ladies are cordially invited to join. Many of our best members are ladies, and we would like a whole lot more of them. The opportunity is open for any of you.

I would now call for the report of the Committee on Markets and Transportation, Mr. J. N. Barnes, Chairman.

## Report of Committee on Markets and Transportation.

*Mr. President and Members of the Society:*

In presenting to you this Annual Report we realize that we have little to say of a different character regarding our committee work than previous yearly reports have contained. The work of the committee, consisting of conferences with representatives of the New Haven road regarding needed cars and transportation for our peaches, as well as an attempt, through the Secretary of the Society, to get a fairly accurate estimate of the volume of prospective fruit crops, about covers our actions. While all was not accomplished that seemed desirable, still progress was made. We found the representatives of the railroad company much interested in our wants and willing to make arrangements in train service that seemed necessary to move our fruit successfully, especially where the volume of fruit to be moved was considerable. Comparatively few shelved cars were furnished, although the expectation was that enough would be furnished for all, and where the quantity of fruit being shipped warranted the use of these large cars their use meant the saving of a large per cent to the shipper in the freight rate. As yet no very satisfactory way of entry to New York City markets has been made, the length of time required being too long as compared with other good markets much used by Connecticut growers. When Connecticut orchards furnish the fruit in sufficient quantity to get special train service to any desired point regularly, we



believe a great gain in time will be made in such service, and perhaps then New York may be made ours.

The section of country traversed by the so-called "Air Line Division" of the New Haven road, is now, and for some time to come, likely to be the greatest producing section of the peach district in Connecticut, and on this line a special peach train was put on to take care of the peach shipments.

As peach growers, one of the obstacles in the way of getting needed facilities, or rather prompt handling of our fruit, has been the small volume of business offered from any one locality—the necessity of gathering from various points to a central point, the various lots of fruit, to make up a train load or make connection for a fast freight.

The first fruit that produced a volume too large for the local markets to use was the strawberry, which at time of greatest yield was very low in price, and there seemed to be no market within reach that could receive to good advantage the surplus fruit. The buying public certainly ought not to have any complaint to make regarding high cost of strawberries last season. As to peaches, we believe that Connecticut growers have reason to feel a good degree of pride in the crop of fruit shipped from their orchards the past season. Except one or two short spells of wet weather the orchard conditions were such that the fruit could be gathered and delivered in the New England markets in excellent condition without the use of ice.

The crop report return estimates made would not indicate a large crop of apples in Connecticut, certainly not enough to supply abundantly our own markets, yet so far there seems to have been a fully supply at reasonable prices, if not from our own orchards, then from some outside the state.

These crop reports or estimates your committee realize to be of value should be fairly reliable and this depends largely on the good judgment and carefulness of those who offer the estimates of their own and others orchard yields.

With the greatly increased yield of fruit from our apple and peach orchards, which is practically a certainty in the near future, these fruit crop reports ought to be of much value to us if they can be obtained reasonably accurate.

Respectfully submitted,

J. NORRIS BARNES,

C. E. LYMAN,

A. N. FARNHAM,

*Committee.*

THE PRESIDENT: You hear the report of your Committee on Markets and Transportation. What is your pleasure?

Motion made, seconded and passed that it be accepted, placed on file and published in the proceedings.

## Report of Exhibition Committee.

At a meeting of your Committee and the Officers of the Society held early in the year it was decided to hold our annual fruit exhibit at the State Fair in Berlin the second week in September, as that time seemed to be better suited for a display of fruit, especially apples, than any other. Other fair associations gave us very attractive invitations to hold our exhibit with them, but everything being considered, it seemed that Berlin was the best place to hold our exhibit.

The total number of plates of fruit exhibited was not as large as some years, but the quality of a greater part was all that could be desired. Most of our members seemed to have learned that it is useless to exhibit fruit of any but the very best quality and appearance. The small amount of inferior fruit noticed was mostly from new exhibitors who have not yet learned to select exhibition specimens, but there were a few plates from exhibitors who have been there year after year, which the judge did not consider worthy of premiums. The trouble with these seemed to be not so much the selection

of inferior specimens, as the indifferent or careless preparation and handling and packing of the specimens.

It is the wish of your committee that every member of this Society could have seen the apples exhibited by our friend, Mr. G. A. Drew, of Greenwich, for it would have been a valuable object lesson for all. Every specimen was almost perfect, they were uniform in size, shape and color, and when placed together made a very attractive display.

There were twelve market packages of apples and four of peaches, but the total number of plates of apples was not as great as some years, although that of pears, peaches, grapes and plums was fully up to the average.

There was a large exhibit of canned fruits, jellies and fruit juices, but that of nuts was very small, being only three plates.

The Agricultural College had a large exhibit of various fruits, which served as a valuable object lesson concerning varieties.

The total number of exhibits was as follows:

Apples .....	356 plates
Pears .....	124 plates
Peaches .....	92 plates
Grapes .....	175 plates
Plums .....	71 plates
Quinces .....	10 plates
	<hr/>
	828 plates
College .....	221 plates
	<hr/>
	1049 plates
Barrel of apples .....	1
Boxes of apples .....	6
Baskets of apples .....	5
Baskets of peaches .....	4
Plates of nuts .....	3
Canned fruits .....	98 jars

Pickles .....	7 jars
Jelly .....	44 glasses
Fruit juices .....	11 bottles

ALLEN B. COOK,  
PROF. A. G. GULLEY,  
GEO. H. HALE,

*Committee.*

PRESIDENT GOLD: The photographer who took a picture of the banquet hall last night has them on sale over in the corner of the hall. If anyone desires to obtain a picture, now is the opportunity.

The first address of this morning on our program is one on Peach Orcharding by Mr. Charles E. Lyman of Middlefield, but he has generously given way to Professor Scott of Washington, D. C. We will hear Professor Scott first. He will be followed by Mr. Lyman. Professor Scott is pathologist in the U. S. Department of Agriculture at Washington. He is to give us an illustrated address entitled "Summer Spraying and the Latest Results in the Use of Lime-Sulphur Mixtures."

PROFESSOR W. M. SCOTT: Members of the Connecticut Pomological Society, Ladies and Gentlemen: It gives me great pleasure to meet with you here to-day and to witness the enthusiasm which you have for the development of the fruit industry. I am very sorry that Dr. Clinton and Mr. Lyman did not give their papers before I appeared on the platform, because this is my first visit to Connecticut, and I had hoped to learn something about the fungous diseases of Connecticut, and of the fruit growing industry of the state before I attempted to give you any information in regard to spraying.

I have some lantern slides to illustrate some of the points in connection with spraying, particularly with the recent experiments with the lime-sulphur mixture, but before

showing these slides I think it would probably be better to bring out the main points of the experiments so that we will not take the time up in passing over the slides.

## Summer Spraying and the Use of Lime-Sulphur Mixtures in Controlling Apple and Peach Diseases.

By PROF. W. M. SCOTT, U. S. Dept. Agriculture, Washington, D. C.

During the past five years prosperity has prevailed among the apple growers of this country as never before. The crops have been bountiful, the prices have been good, and orchard property has almost doubled in value. Every one seems to be feeling good over the situation, and prospective investors have caught the fever. Lawyers and doctors, and even capitalists, are investigating the possibilities of fruit growing and many of them are planting, or planning to plant, extensive orchards. The plans for the present season's planting of new orchards are so extensive that the nurserymen are unable to supply the demand for trees.

What the effect of this increased acreage will be upon the future apple industry is an open question. It seems evident that the production of apples in this country will be enormously increased and that the prices for this fruit will rule lower than they have during the past few years. The writer is of the opinion, however, that there is no danger of a serious overproduction, and that there will always be a good demand for good apples, while the poor stuff, so common on our markets to-day, will not pay the expenses of handling. It should be the aim of every orchardist to produce and market nothing but first-class fruit, and if he does this he may reasonably expect to always obtain good returns from his investment.

Spraying is the one operation above every other orchard practice which determines the quality of the fruit

produced. It therefore behooves us to give this subject the most careful consideration. The successful orchardist of the future will be the man who among other things studies the conditions existing on his own farm and sprays his trees according to the needs of each variety for the control of the particular troubles which occur in his locality. The course of treatment best suited for the orchards of one locality may not necessarily give the best results in orchards situated in another locality, and again the treatment for certain varieties of apples may be different from that required for certain other varieties growing in the same locality. The course of treatment should be planned not only with reference to the diseases to be controlled, but also with the reference to the probable effect of the fungicide upon the fruit and foliage of the variety to be treated.

These are some of the finer points to be considered in connection with spraying, and the orchardist who gives them due consideration will obtain the best results in the production of good fruit.

In recent years Bordeaux mixture has come into ill favor among the apple growers on account of its injurious effect upon the fruit and foliage, and there is a growing demand for a fungicide which can be used for the control of apple diseases without producing such injury. During the past three years the writer has been working on this problem and not without some success. The self-boiled lime-sulphur wash which was developed primarily for spraying peach trees has been found to be an excellent spray for the control of mild cases of apple diseases and to be entirely harmless to fruit and foliage. The concentrated lime-sulphur solutions both commercial and home prepared, when diluted to contain four pounds of sulphur to 50 gallons of water have proved to be about as effective in the control of apple scab and leaf-spot as Bordeaux mixture and to be much less injurious.



### Virginia Spraying Experiments.

In Virginia the past season, the writer, with the assistance of Mr. Leslie Pierce, conducted experiments for the control of apple diseases with these lime-sulphur preparations and the results confirm the above statements. The experiments were made on the Albemarle Pippin at Grozet, the Winesap, York Imperial and Ben Davis at Fishersville, and the York Imperial and Ben Davis at Mt. Jackson, Virginia. The self-boiled lime-sulphur, the home-boiled lime-sulphur and the commercial lime-sulphur, as well as Bordeaux mixture, were used on each variety. The self-boiled mixture was used in two strengths, 8-8-50 and 10-10-50, and the home-boiled solution at a strength of 5 lbs. of sulphur and  $2\frac{1}{2}$  lbs. of lime to 50 gals. of water. The commercial lime-sulphur solution was used at the rate of  $1\frac{1}{2}$ ,  $1\frac{3}{4}$ , 2 and  $2\frac{1}{2}$  gals. to 50 of water. Arsenate of lead at the rate of 2 lbs. to 50 gals. was used with the self-boiled mixture, the home-boiled solutions and the Bordeaux mixture. The commercial solution was used with arsenate of lead at the rate of 2 lbs. to 50 gals., with Paris green at the rate of 6 oz. to 50 gals. and without any poison. In the Mt. Jackson orchard the trees were sprayed first, as soon as the petals fell; second, three or four weeks after the petals fell; and third, nine to ten weeks after the petals fell. The Fishersville orchard, on account of scab, received an additional application, which was made just before the trees bloomed. The Crozet orchard, which was composed of Albemarle Pippins, received the same treatment as the Mt. Jackson, and a fourth application three to four weeks after the third.

### Effect of the Sprays on the Foliage.

One of the objects of these experiments was to determine the effect of the several lime-sulphur preparations in combination with arsenicals on apple foliage. Notes were

made on the condition of the foliage several times at intervals during the season.

In every case, except on Winesap, where Paris green was used with the commercial lime-sulphur solution the foliage was badly burned, and in some instances the tree sprayed with this combination lost half its foliage. The Winesap did not suffer so much injury from this or any of the sprays as did the other varieties. It seems from these tests that it is entirely unsafe to use Paris green with the lime-sulphur preparations.

The commercial lime-sulphur at the rate of  $1\frac{1}{2}$  gals. to 50 gals. of water and 2 lbs. of arsenate of lead, injured the foliage only slightly—scarcely enough to be noticeable to the casual observer. At the rate of 2 gals. to 50 gals. of water with arsenate of lead this preparation injured the foliage considerably, so that a small per cent of the leaves dropped off. This injury was manifested by a slight scorching around the margins and at the tips of the leaves, and in some cases by the formation of irregular brown spots. Even here, however, the injury was no more severe than that caused by 3-3-50 Bordeaux mixture on the same varieties.

At a strength of 2 to 50 without any poison, the commercial solution injured the foliage slightly more than the same mixture with the addition of arsenate of lead. The same is true of the  $1\frac{1}{2}$  to 50 strength. The arsenate of lead apparently reduced the caustic properties of the sulphides, rendering the mixture less injurious to apple foliage.

The same solution at a strength of  $2\frac{1}{2}$  gals. to 50 gals. of water with and without arsenate of lead injured the foliage very badly, causing a partial defoliation of the trees.

It appears from this test that 2 gals. of the commercial solution to 50 gals. of water is the very maximum strength that can be used on apple foliage with any degree of safety

and that  $1\frac{1}{2}$  to 50 is much safer and is about as strong as one should risk in spraying a large orchard.

The home-boiled solution, containing 5 lbs. sulphur and  $2\frac{1}{2}$  lbs. of lime to 50 gals. of water, with 2 lbs. of arsenate of lead, caused very little or practically no injury. It was made by boiling the sulphur and the lime with a small quantity of water in a kettle over a fire for 45 minutes. Enough for 200 gallons of spray (20-10-200) may be prepared in a 20 gallon kettle.

The self-boiled lime-sulphur and arsenate of lead caused no injury whatever; in fact, the foliage sprayed with this mixture had a bright-green, vigorous appearance throughout the season. The leaves were noticeably larger, the buds were plumper, and the trees made more growth than those sprayed with the other lime-sulphur preparations and with Bordeaux.

The Bordeaux mixture caused considerable spotting and yellowing of the leaves on York Imperial, Ben Davis and Yellow Newtown, but very little on Winesap. Some of the injured leaves dropped from time to time, so that the foliage on some trees was somewhat thinned out toward the end of the season, but the damage could not be considered very serious.

The weather was cloudy and rainy from early spring up to July 1, so that the conditions were favorable to the development of spray injury. It turned dry about mid-summer, however, and practically no rain fell during the remainder of the season.

### The Control of Diseases.

In the orchards where these experiments were conducted none of the apple diseases except leaf-spot developed to a serious extent, so that the test was not a severe one. The apple leaf-spot, so common throughout Virginia, was entirely controlled by all the mixtures used. The self-boiled lime-sulphur made the best showing in this connec-

tion because it not only controlled the leaf-spot, but did not injure the foliage and apparently had a stimulating effect on the trees. All the lime-sulphur mixtures, as well as the Bordeaux, controlled the sooty fungus and an undetermined "fruit-spot" which was common the past season in Virginia.

Considerable scab developed on the unsprayed Winesaps in the Fishersville orchard, so that we had a partial test of the efficacy of the sprays on this disease. Only one strength (2 to 50) of the commercial lime-sulphur was used on this variety. The crop from four trees in each of the more important plots was picked and sorted and the scab results are shown in the following table.

<i>Plot</i>	<i>Spray Mixtures Used.</i>	<i>Per Cent Scabby</i>
2	Commercial lime-sulphur, 2 to 50, and Paris green .....	0.63
3	Commercial lime-sulphur, 2 to 50, and Arsenate of lead. ....	0.51
4	Self-boiled lime-sulphur, 10-10-50, and Arsenate of lead..	3.75
6	Bordeaux mixture 3-3-50, and Arsenate of lead.....	2.15
8	Check-Unsprayed .....	30.27

It will be seen from this table that the scab was held down to less than one per cent of the crop by the commercial lime-sulphur, to  $3\frac{3}{4}\%$  by self-boiled lime-sulphur and to about 2% by Bordeaux mixture, and that 30% of the unsprayed fruit was affected with scab. The disease was well controlled by all the mixtures, but it will be noted that it was not particularly bad on the unsprayed trees, so that the test could not be considered a severe one. None of the Winesaps were sprayed with the weaker preparations, nor with the home-boiled lime-sulphur.

In this experiment the comparative effect of the different mixtures on the codling moth was determined and it was found that the combination of lime-sulphur and arsenate of lead controlled this insect fully as well as Bordeaux mixture and arsenate of lead. It seems, therefore, that the poisonous action of this arsenical is not reduced by combining it with the lime-sulphur preparation.

### Effect on the Fruit.

In all the orchards treated the fruit sprayed with the several lime-sulphur mixtures was smoother and more highly colored than that sprayed with Bordeaux mixture. The Bordeaux russeted the fruit of the Ben Davis so that it did not have the finish required for fancy apples. A small per cent of it had to be discarded as culls on account of the roughened appearance due to the Bordeaux. The Yellow Newtowns were russeted considerably and the Winesaps only slightly, while the York Imperial showed practically no russet effect.

The lime-sulphur sprays caused no russetting, or at most very little where the strongest mixtures were used, and the fruit sprayed with these mixtures was smooth, clean and well colored.

### Experiments in Michigan.

Similar experiments were conducted at Douglas, Mich., in coöperation with the Bureau of Entomology, and the results of that work were much the same as those obtained in Virginia. However, the injury to apple foliage by the commercial lime-sulphur (2 to 50) was rather more severe in Michigan than in Virginia. On the Wagener variety the scab disease was held down to 4.8% of the crop by the commercial lime-sulphur and arsenate of lead, to 3.6% by Bordeaux mixture and 19% by self-boiled lime-sulphur, while 81% of the unsprayed fruit was scabby. It appears, therefore, that the lime-sulphur solution is as effective in controlling apple scab as Bordeaux mixture, while the self-boiled wash is not so good in this connection.

### Conclusions.

The writer feels that the information at hand is not quite sufficient upon which to base final conclusions and rec-

ommendations. It seems evident, however, that a lime-sulphur preparation in one form or another is destined to largely take the place of Bordeaux mixture in spraying varieties of apples subject to serious injury from applications of the latter.

A lime-sulphur solution containing, when diluted, about 4 lbs. of sulphur to 50 gals. of water, appears at present to be the most promising preparation. This may be obtained by using the commercial solution at the rate of  $1\frac{1}{2}$  gals. to 50 gals. of water, or by preparing the lime-sulphur mixture at home and diluting it so that each 50 gals. will contain 4 lbs. of sulphur. The mixture at this strength injured apple foliage in Virginia very little, and if these results could be taken as a reliable guide, there need be no hesitancy in using it; but under different conditions the results might be different and the matter must still be considered as experimental. However, in view of the results of our experiments extending over three years, and those obtained by other workers, I would not hesitate to use the mixture for apple scab and leaf spot on varieties subject to Bordeaux injury.

Our experiments of 1908 and 1909, as well as the published records of other investigators, show that the lime-sulphur solution is apparently as effective as Bordeaux in the control of apple scab. Under more severe conditions than those which existed in the experiment orchards, the treatment might fail, but at present it is very promising. It will control leaf-spot and other minor troubles, as well as apple scab, but so far it has not proved to be a satisfactory remedy for apple blotch (*Phyllosticta*) and bitter rot. However, the experiments on those two diseases have not been carried far enough to determine what may be expected of it in this connection. In sections where spraying for bitter rot is required the lime-sulphur treatment for scab and leaf-spot could be followed by applications of Bordeaux for bitter rot.

The self-boiled lime-sulphur is entirely harmless to apple foliage and apparently has a stimulating effect, but it is not



quite as effective against scab as the boiled wash. Our experiments show that it will control mild cases of scab and will entirely prevent leaf-spot, "fruit-spot," and the sooty fungus, but in sections where scab is a serious disease this wash would probably be inefficient. In the Shenandoah Valley of Virginia, where scab rarely occurs except in a mild form and under similar conditions elsewhere, the self-boiled lime-sulphur would perhaps be preferable to either the boiled wash or Bordeaux.

Arsenate of lead is unquestionably the poison to use with the lime-sulphur mixtures. Instead of increasing the poisonous properties of the mixture, as at first feared, it apparently has the opposite effect to some extent and does not lose any of its insecticidal value by reason of the combination.

In Connecticut orchards it would probably be safe to use the commercial lime-sulphur solution at the rate of  $1\frac{1}{2}$  gallons to 50 gallons of water with 2 lbs. of arsenate of lead.

The trees should be sprayed (1) Just before they bloom, after the cluster buds open, (2) As soon as the petals fall, and (3) Three to four weeks later. If properly carried out this should give good protection against scab, leaf-spot and codling moth. On some bad scabbing varieties a fourth application about nine weeks after the petals fall might be necessary for protection against late infections.

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Following this paper Prof. Scott showed a series of lantern slides illustrating the control of apple and peach diseases with lime-sulphur mixtures. The following is a summary of his remarks on the spraying of peach orchards, with self-boiled lime-sulphur for the control of scab and brown-rot.

### Self-Boiled Lime-Sulphur for the Control of Peach Scab and Brown Rot.

Experiments conducted by the speaker in the Hale orchard at Fort Valley, Georgia, during 1909 showed that the

self-boiled lime-sulphur was an effective remedy for brown-rot and scab or black-spot. A combination of the self-boiled lime-sulphur and arsenate of lead proved to be a combined remedy for the brown-rot, scab and curculio.

On a block of Waddell peaches the yield was increased 100% by two applications of the self-boiled lime-sulphur. Four applications of the lime-sulphur and arsenate of lead combined on a block of Elbertas increased the yield of merchantable fruit ten fold. No injurious effect on the fruit or foliage resulted from the treatment. On the New York market the sprayed fruit sold from 12½c. to 50c. a crate more than the unsprayed fruit, this difference alone being enough to pay the cost of the treatment several times over.

A West Virginia orchard of 15,000 trees was sprayed with self-boiled lime-sulphur under the speaker's direction. As very little brown-rot occurs in that section the treatment was made for the scab disease alone. A small block of trees was left unsprayed and 86% of the fruit from these trees was so badly affected with scab as to be unmerchantable. None of the fruit sprayed twice with self-boiled lime-sulphur was badly affected and only 1.3% of that sprayed once was badly affected. However, the block sprayed only once had enough scab to somewhat injure the market value of the fruit, so that two applications are desirable. These results show clearly that two applications of self-boiled lime-sulphur will completely control the scab disease even in situations where 86% of the unsprayed fruit is destroyed by it.

### Courses of Treatment Recommended.

*Scab Treatment.* For the treatment of peach scab alone where brown-rot does not occur, spray the trees with 8-8-50 self-boiled lime-sulphur about one month after the petals fall and again three to four weeks later. In mild cases one treatment thoroughly applied about a month after the petals drop will so nearly control the disease that a second applica-

tion may not be necessary. However, two treatments will usually be required, especially on late maturing varieties.

*Brown Rot and Scab Treatment.* In orchards where both brown-rot and scab are to be combated, the following is the course of treatment required:

Spray with 8-8-50 self-boiled lime-sulphur (1) three to four weeks after the petals fall (2) about three weeks later, and (3) about one month before the fruit is expected to ripen. This applies especially to the Elberta, Belle and other mid-season varieties. The season being shorter, with earlier maturing varieties, such as Waddell and Carman, only two applications, the first and the third of the above outline, will be required.

*Combined Scab, Brown-rot and Curculio Treatment.* Where the curculio occurs in injurious numbers it is necessary to control it in order to obtain the best results from the brown-rot treatment. Arsenate of lead should be used for the purpose and the treatment would then be as follows:

1. About the time the calyces are shedding, shortly after the petals drop, spray with arsenate of lead at the rate of 2 lbs. to 50 gallons of water.

2. Two to three weeks later, or about one month after the petals drop, spray with 8-8-50 self-boiled lime-sulphur and 2 lbs. of arsenate of lead.

3. About one month before the fruit ripens spray with 8-8-50 self-boiled lime-sulphur, omitting the poison.

### Preparation for Self-Boiled Lime-Sulphur.

The mixture used in our experiments during the past season was composed of 8 lbs. of fresh stone lime and 8 lbs. of sulphur (either flowers or flour may be used) to 50 gals. of water. This appears to be about the correct strength, although in mild cases of scab and brown-rot a weaker mixture, containing 6 lbs. of each ingredient to 50 gals. of water, may be used with satisfactory results. The mixture can best be prepared in rather large quantities—say enough for 200 gals.

at a time, making the formula 32 lbs. of lime and 32 lbs. of sulphur to be cooked with a small quantity of water (8 or 10 gallons and then diluted to 200 gallons.

Place the lime in a barrel and pour on enough water to almost cover it. As soon as the lime begins to slake, add the sulphur, which should first be run through a sieve to break up the lumps. The mixture should be constantly stirred and more water added as needed to form a thick paste at first and then gradually a thin paste. The lime will supply enough heat to boil the mixture several minutes. As soon as it is well slaked, water should be added to cool the mixture and prevent further cooking. It is then ready to be strained into the spray tank, diluted and applied.

The stage at which cold water should be poured on to stop the cooking varies with different limes. Some limes are so sluggish in slaking that it is difficult to obtain enough heat from them to cook the mixture at all, while other limes become intensely hot on slaking and care must be taken not to allow the boiling to proceed too far. If the mixture is allowed to remain hot fifteen or twenty minutes after the slaking is completed, the sulphur gradually goes into solution, combining with the lime to form sulphides which are injurious to peach foliage. It is, therefore, very important, especially, with hot lime, to cool the mixture quickly by adding a few buckets of water as soon as the lumps of lime have slaked down. The intense heat, violent boiling and constant stirring result in a uniform mixture of finely divided sulphur and lime, with only a very small per cent of the sulphur in solution. The mixture should be strained to take out the coarse particles of lime, but the sulphur should be carefully worked through the strainer.

PRESIDENT GOLD: This has been a very interesting and instructive address, and I hope that Professor Scott will be questioned freely.

## DISCUSSION.

PROF. SCOTT: I want to add that in our experiments with the boiled lime-sulphur we used as the maximum amount five pounds of sulphur and two and one-half pounds of lime for each fifty gallons of water. In general spraying, however, only four pounds of sulphur should be used. I would recommend that, because we were just on the danger line.

MR. FENN: How much lime?

PROF. SCOTT: Two and one-half pounds. Half as much lime as sulphur.

QUESTION: How about commercial lime-sulphur?

PROF. SCOTT: In my opinion, it is not so safe to use. When we diluted it, it was not strong enough to prevent the brown-rot and scab. The self-boiled lime-sulphur is a different preparation. It is scarcely more than a mechanical mixture of sulphur and the lime suspended in water. It is prepared by placing the lime in a barrel, pouring the water over it in sufficient quantity to slack it into a thin paste. When the lime begins to slack, the sulphur is poured on, having first been run through a sieve to break up the lumps. The slacking of the lime produces enough heat to violently boil the mixture for three or four minutes. As soon as the lime is slacked down into a thin paste, water should be added and the cooking process stopped, because if you heat the mass enough the sulphur goes through a change which will cause the solution to burn the foliage. Peach foliage is very susceptible, and these sulphides in the preparation are very caustic, and should be avoided.

QUESTION: How does dry arsenate of lead compare with the paste as it is in the market?

PROF. SCOTT: I have not tried the dry. I should think it would be more difficult to use in liquid,—more difficult to mix up with the water. The paste form, I should think, would be preferable.

QUESTION: How much lime and how much sulphur in the self-boiled

PROF. SCOTT: 8-8-50. That is the proportion. Eight pounds of lime, eight pounds of sulphur, to fifty gallons of water.

MR. FENN: Would the small percentage of lime used in connection with arsenate of lead, in addition to the lead, would that have a tendency to produce rust?

PROF. SCOTT: No. It would not produce rust. It is not the lime that produces the rust that is seen on fruits. It is the blue stone of the Bordeaux mixture.

MR. FENN: The reason I asked that question was,—I had the pleasure of entertaining Mr. Frost at my home about a year ago. He asked me what I was going to use for spraying. I told him I had been using Bordeaux but found it rusted the apples badly. He says, "I would cut out Bordeaux and use arsenate of lead straight." I had a little experience in my garden. I burned the foliage on the currants and gooseberries, and I thought possibly with the addition of a little lime it would neutralize the burning effect. I did not know whether that was produced by the lime or whether it was because of the arsenate of lead. I buy my chemicals and make my own mixture of arsenate of lead, and I found in conversation with several gentlemen here who are doing the same thing that I am using a larger proportion of arsenate of soda in connection with the sugar of lead than they do. I use two pounds of each for one hundred gallons of water, dissolving them separately, and then pouring the two together. That was the solution. I had a very small percentage of wormy fruit. I do not think over two per cent. It keeps it very free. Whether it was owing to the large per cent of arsenate of soda, I do not know.

PROF. SCOTT: I think you had a good deal of free soda in your mixture.



MR. FENN: Would a larger amount of lead used in connection with the mixture have any tendency to crack the fruit?

PROF. SCOTT: It would have a tendency to crack it, yes.

MR. FENN: How much more lead would you add to the two pounds of arsenate of soda in that mixture?

PROF. SCOTT: It would depend largely upon your chemicals. They vary quite a good deal, and that is one reason why it is so unsatisfactory to make arsenate of lead at home. It is because the ingredients that you use vary in their composition. In one case you might use equal parts and get good results; in another season, you might use equal parts and get too much free arsenate in your mixture.

MR. DREW: I would like to know a little more about this self-boiling lime-sulphur. I would like to know whether your formula is the same for apples as it is for peaches?

PROF. SCOTT: It is the same.

MR. DREW: As I understood you, the formula was four pounds of sulphur to two and one-half pounds of lime.

PROF. SCOTT: That is not the self-boiled. That is the boiled. The regular boiled wash with the exception of the lime. Half as much lime as sulphur.

MR. DREW: And how about the self-boiled?

PROF. SCOTT: Eight pounds of sulphur to eight pounds of lime.

MR. DREW: It is the same on peaches as on apples?

PROF. SCOTT: Yes.

MR. DREW: What was the formula of the Bordeaux used on that last slide where the leaves showed the effect?

PROF. SCOTT: Three pounds of blue stone to nine pounds of lime and fifty gallons of water. We used a great

excess of lime in order to prevent the injury as much as possible.

MR. FROST: I would like to ask the speaker if he has ever used the lime-sulphur mixture for cherries. I understand that it is different.

PROF. SCOTT: We used both the 8-8-50 and 6-6-50, but we found the weaker preparation was sufficient on the cherry leaf spot.

MR. FROST: You would advise the 6-6-50 for cherries and the 8-8-50 for apples and peaches.

MR. WAKEMAN: Will you kindly repeat the formula for making that self-boiled mixture?

PROF. SCOTT: The self-boiled lime-sulphur we prepare as follows: It is best to prepare it in large quantities, say enough for about two hundred gallons at a time. That would require thirty-two pounds of lime, thirty-two pounds of sulphur, to be cooked with a small quantity of water. Place the lime in a barrel, pour over water sufficient to almost cover the lime, and as soon as it begins to slack add the sulphur. The sulphur should first be run through a sieve to break up the small lumps so it will mix with the water. If the lime is of good quality, the mixture will boil violently for three or four minutes, and more water will need to be added if enough was not added to start with. In order to keep it from getting too thick, the mixture should be thoroughly stirred while it is boiling. As soon as the lime is thoroughly slacked, add cold water to stop the cooking. For apples, that cooking can be allowed to go on for some time, but for peaches it should be stopped as soon as the lime is thoroughly softened. In other words, the mixture should be cooled by the addition of water. It is then ready to be stirred into the spraying tank, diluted and ready for application. Thirty-two pounds would have to be diluted to 200 gallons.

MR. FENN: That is for summer spraying?

PROF. SCOTT: Yes.

MR. FENN: I would like to ask Professor Scott if that can be kept, or does it have to be used at once?

PROF. SCOTT: It can be used indefinitely.

QUESTION: What form of sulphur do you recommend?

PROF. SCOTT: The flour of sulphur, I think, is better.

QUESTION: Dry or mixed up?

PROF. SCOTT: It is run through a sieve to break up the small lumps. It can be wet into a paste first, and then added, but that is considerable trouble. The slacking of the lime seems to make the water take hold of the sulphur and wet it up fairly well without previously working into paste.

DR. CLINTON: What is the cost per gallon of the 8-8-50 self-boiled lime-sulphur compared with the 4-4-50 Bordeaux?

PROF. SCOTT: Four pounds of blue stone would cost about twenty-six cents, eight pounds of sulphur at three cents a pound, twenty-four cents.

MR. HALE: It does not cost three cents. You can buy it for less than that.

PROF. SCOTT: No, it can be bought for less. That is so. It costs in large quantities about two and one-half. There would not be much difference. The difference would be slightly in favor of the lime-sulphur preparation.

QUESTION: Can you use warm or cold water in slacking?

PROF. SCOTT: Either. It is not necessary to use warm water.

QUESTION: I would like to ask the Professor if you were to use a well prepared quantity, if you think it is injured by keeping?

PROF. SCOTT: You mean the concentrated boiled mixture?

QUESTION: Yes.

PROF. SCOTT: If it is made according to the formula of Professor Stewart of Pennsylvania,—according to his statement, it will keep indefinitely. That is, to use half as much lime as sulphur, and boil it for about fifty minutes. Put it away in a tight vessel, and it will keep without precipitating or crystalizing at all. Where the old formulas, with an excess of lime, are used, it will not keep; it will crystalize.

MR. KNAPP: If it is used immediately, is there any necessity for using so much lime, or would it be better to make it fifteen pounds of sulphur to ten pounds of lime, or something like that?

PROF. SCOTT: That is all right. I do not see any reason for using the additional lime.

MR. KNAPP: In making it that way, wouldn't you think it would hasten the matter to use warm water to boil the lime, and continue that process so far as possible? Isn't there something to be gained in using hot water and starting it along, and perhaps saving time?

PROF. SCOTT: Yes, if you are making the self-boiled for spraying in the dormant season, yes, but the self-boiled mixture usually is not quite so successful for dormant spraying because you do not get all your sulphur into a solution.

QUESTION: You said "self-boiled." I thought you meant home-made. I do not understand you. I mean for dormant trees.

PROF. SCOTT: It should be boiled.

QUESTION: Well, isn't there an advantage to let the lime into hot water, because you would gain by the boiling as well as by the condition of the mixture? Isn't there a saving to use hot water?

PROF. SCOTT: As you state it now, yes sir.

MR. LYMAN: I wanted to ask one question in reference to sulphur,—whether this ground sulphur will have the same effect as the flour of sulphur with the self-boiled mixture?

PROF. SCOTT: We never tried the ground sulphur. It ought to be tried. I presume if it is finely ground it will be just as good.

MR. LYMAN: It works all right, in my experience, in the boiled.

PROF. SCOTT: We are going to try it this year. I would not want to say that it would be entirely satisfactory until it had been tried.

PRESIDENT GOLD: We will now have the pleasure of listening to Mr. Lyman. He will talk to us on "The Present and Future of Connecticut Peach Growing."

## The Present and Future of Connecticut Peach Growing.

By Chas. E. Lyman, Middlefield.

MR. PRESIDENT, LADIES AND GENTLEMEN: It is with the greatest pleasure that I come before you, yet I hesitated some time before I consented, at the request of Secretary Miles, to address you here to-day. A week ago I was very much gratified. A couple of friends were talking, and one of them said: "Lyman has improved." Well, I felt, as you can see, that if that was the case there was hope for me yet.

Now we have heard the apple question discussed here yesterday and to-day very thoroughly. It has been pretty well gone into in the sessions of this meeting, but the question of peach growing is just coming up apparently. In the first place, I would like to say that I have observed that the peach situation here in Connecticut is a little

different from what it was a few years ago. There are comparatively few men in the state interested in growing peaches compared with what there were five or six years ago, or perhaps ten years ago. It seems to have come down to where there are only a few who have made it their life work, the main industry on their farms, but, of course, there are quite a number who have taken it up in connection with other lines. I think that the story of Adam and Eve was a mistake in one respect; that Eve should have offered Adam a peach instead of an apple. We men, of course, can appreciate Adam's situation. We can all see that Adam must have thought that Eve was a "peach," even if she had offered Adam a pumpkin.

Now to go on with my subject, I would like to say that I will briefly give you my impressions of the prospects of the future of the peach industry in Connecticut, and incidentally, I shall bring in my observations in regard to peach growing in the states that would compete with us, naturally, in the growing of the fruit. As I said before, the conditions are different from what they used to be. We must look at the business in a very different light. As it has been for the last six or eight years, and as it will continue to be in the future, we have got to put up a stiff fight against all these insects that have been imported into the country, and which I guess, have spread all over the world. By the increased facilities of transportation, these parts have spread practically everywhere.

I might say that the competition from the states that have usually competed with us, it seems to me, is going to be much less in the future than it has been in the past. I had occasion to take a little trip south through New Jersey, Pennsylvania and Maryland, and I observed there few peach orchards that were in a thrifty condition. There were a great many small orchards going out, orchards which had been killed by insects, or something had destroyed them. A comparatively few trees were being set



out. A great many of them were indifferently taken care of I think for the future we are to look for a good market for Connecticut grown peaches, and for the last two years the crops have brought prices which have been a surprise to me. With a full crop this past year, the prices were fully as high as anyone could expect; in fact, peaches have always brought more than they were worth, but there is no fruit that can be placed on the market equal to the peach. It will supersede everything else, provided the quality is superior.

Perhaps this is all I care to say on this phase of the subject. The main point, I think, I am here for is to discuss with you my methods, and perhaps you will, in the discussion, give your methods, and I will get some advantage from it in that way. It will be an advantage to me, and I presume an advantage to others, if you will give your experiences in the matter of growing, harvesting, and marketing your peaches.

In the first place, I would say that one of the most important things is a real liking for the business. I would like to say that although I am an optimist myself it would be unfortunate if by any influence of mine some persons that are not adapted for the work should be induced to take it up and make a failure of it. A farmer must understand that it is a fight all the time. You have got to stick to it through thick and thin. There are years when there will be no money coming in from the fruit, and then there will be a great surprise, you will get a big crop, and you will get so much money that you hardly know what to do with it. You may spend the money, and the next year, perhaps, get a failure of the crop.

MR. ROGERS: I would like to ask Mr. Lyman what varieties he is going to set for the coming year? I understand he is going to set out a "small" orchard of sixty acres.

MR. LYMAN: I intend to set some varieties which will come into my orchard and help to make a succession of

fruit. I hope that I shall not be over-loaded with any one variety. I can handle the fruit with my facilities, but what I want is not to be overloaded in the market by having my fruit all come along at one time or about the same time. Now as regards varieties, the Elberta is a good peach, and is one of the peaches that we can raise, but there are other varieties that we can make a lot of money on. It would not do to put all the eggs in one basket. If you had set out Elbertas, I would say in regard to varieties, that this spraying business to control the brown rot and scab, and all those diseases, is going to gain a great deal for us in growing early varieties. We have got to keep the foliage on the tree. That is going to do a great deal for us in the growing of early peaches. The Greensboro is a peach which, a few years ago, I wouldn't have anything to do with. I have seen it fruit every year, but they would amount to nothing. I believe that the Greensboro is a peach that we can raise if we spray for the rot and scab. The Waddell is a peach that is less subject to rot, but the Carman is a much more salable peach. It is much more attractive in appearance. I do not know as it is superior, but in appearance it is far superior. As I have thought it out now, I should advise the Carman in place of the Waddell. You do not want two varieties, one inferior to the other, coming at the same time, if you can help it, provided the conditions are the same in both cases. Then the next one that I would plant, I think, would be the Champion. That is a great money-maker with me. We have had that tree fruiting on our place for about ten years. Some of those trees are still alive.

MR. ROGERS: Have you ever sprayed for the rot?

MR. LYMAN: No, I never have.

MR. ROGERS: In regard to the Champion, isn't it so that there are years when it is almost a total loss from rot? I believe only a short time ago that was the case.

MR. LYMAN: No, I have never sprayed the Champion for rot, we have never lost a crop. We have had trees fifteen years, and we never had a failure yet. We never had so many but what we could handle them quickly. If I saw danger from rot, I set my men to work picking the Champions. We have saved a crop by picking a little green. Some of our neighbors left them on, and they lost the whole crop.

MEMBER: I would like to inquire if you ever tried the Triumph for early peach?

MR. LYMAN: No.

MEMBER: They rot badly, do they not?

MR. LYMAN: I never have tried them. If I was a man without experience, the first thing I should do would be to go to a good peach grower that you could rely on, one that knows your region where you are growing fruit, and go to someone where you can see the fruit yourself. Follow out all the varieties as they ripen during that year, and see how they all fit into your conditions. Now you go down to Maryland, and the Chairs Choice is one of the most desirable peaches that you can raise. As you know, or as everyone knows who has raised them, or that has been in the business, it is one of the most delicious peaches that grows. If we can raise them, it is a good variety.

A MEMBER: I have some, and I sold them for \$2.50 a basket. I had one hundred trees, and only had about eight or ten baskets from those hundred trees.

MR. LYMAN: Up to last year we got about that proportion,—we got some for one or two years, but they were the nicest fruit we had. Last year we had a crop, and it was a magnificent crop.

A MEMBER: They are a very healthy tree, I think.

MR. LYMAN: Our experience is not that way. They are like some other varieties. We have found them some-

what susceptible to the yellows. The trees are more easily frozen. What the yellow is, is more than we know. As Mr. Walker said before the meeting of the Board of Agriculture, "he reckoned the gentleman could guess just as well as he could."

Q. Do you recommend any yellow variety other than the Elberta?

MR. LYMAN: No, I really do not know what yellow variety I would set out beside Elberta. I do not think I have got any on my land. Chairs Choice, when you get a crop, is a first-rate peach. We got a crop last year.

Q. What about the Ashland?

MR. LYMAN: I know nothing about it. I am not experienced as to the majority of varieties that are not grown extensively. I would like to say that there is a peach that comes along about the time of the Champion which I look to as being a great acquisition for us, and that is the Hieley. It is an absolutely free stone peach, which the Champion is not. It is a medium sized peach, fine tasting, a beautiful peach to look at, and resembles very much the Mountain Rose. It comes into bearing with the Champion.

Q. Which is the best of the late white varieties?

MR. LYMAN: Well, that is a little hard to decide. We have had the Lovett's White, which is a great bearer. It will bear very young. It is a very prolific peach, and we have always been able to get fair kind of prices for it. Rarely less than sixty cents wholesale. The Iron Mountain would take its place. It is very hard to distinguish one from the other.

Q. How about the Fox?

MR. LYMAN: That comes before the Iron Mountain

or the Lovett's White. It follows close to the Elberta. There may be a few days between them, but, as a general thing, it comes along just about right after the Elberta.

Q. How about the Fitzgerald?

MR. LYMAN: As I say, I do not know about some of those varieties that are not so commonly grown.

A MEMBER: It is worthless, so far as I have planted.

MR. LYMAN: There are only six or eight varieties that I would like to plant. I am trying some Stevens' Rare Ripe, and from what few trees I have seen it seems to bear very well. It is the best quality late peach that we have.

THE PRESIDENT: Mr. Lyman, we would like to have you tell us something about fertilizing these peach trees.

MR. LYMAN: That is one of the biggest questions you can ask me, one that is most difficult to answer. I cannot tell another man how to fertilize his orchard. I can only tell you what I do. It is rarely that you can fertilize two orchards alike. It depends, in the first place, very largely upon the varieties that you grow, and it also depends upon the condition of the soil, whether it is right, or what it has had on it before,—whether it has had a crop of fruit or whether it has borne the year before. There is one thing I do do. I stock up with all the chemicals that I think I need for the coming year, and then as I go along, and as I think I need, I have something to do with. I do a lot of guessing about fertilizing. You have got to do a lot of guessing in the matter of fertilization. There is one thing though, I never put on anything but soluble fertilizer when planting my trees. It is a mistake to put insoluble fertilizer next to a little tree that is set out. You pull that tree up, and you will find that fertilizer there years later. With a great deal less expense you can put soluble food where the roots can get it, and you

will get more benefit by a good deal from it. I had an orchard of about three thousand trees,—Elbertas. I bought the land the 15th of April, and set them out that month, before the first day of May, and the land was absolutely worthless in the condition in which I bought it. It was simply pasture land and nothing else, and mighty poor for that purpose. An animal could not get a living from it, and yet it was good land for an orchard. It had been neglected for so long it had grown up with moss. We planted those trees, and they made a superb growth at the expense of one cent for fertilizer per tree. Mind you, that land was turned over the last of April.

Q. What did you do?

MR. LYMAN: I put on acid phosphate, and I think it was saltpeter that went with it. It cost a cent to the tree. They were a fine looking lot of trees. Of course, I gave it cultivation. I am a believer in clean culture. By that you understand that young trees have got to be cultivated enough. The other vegetation must be kept away from them so the trees will get the full benefit of that growth the first year or two. After the roots have pretty much covered the ground, look out and not get too close to the tree. It was careless and shiftless farming that taught me that lesson.

Q. I understand that Mr. Lyman does not object to some weeds growing under his peach trees.

MR. LYMAN: Weeds have come into play on my place mighty well sometimes. This last season was a case where it was up to us to keep the moisture in the ground. There wasn't a soaking rain during the whole summer. I mean by that, there was no rain that went down six or eight inches, on some of our orchards, from March until the fruit ripened. We had to keep the moisture in the ground, we did not dare to do anything to dry up the soil. We were mighty glad to see some weeds come in to pro-



tect it from frost. By leaving the bulk of the land uncultivated close to a big tree, I think it saves it from freezing. To illustrate, I might bring up this incident to emphasize this one point. I had a block of trees, about sixteen hundred Elbertas. I had not done well enough by them. They did not grow as they should for two or three years. I wanted to have them catch up with others I had. I thought I would make them come up to them. The next year they blossomed out in good shape, but within a week or two the trees began to die all through that orchard. It was one of the worst looking orchards you ever saw. About three-quarters of the trees lived, however. I attributed that to cultivating around those trees close to the trunks.

Q. How late in the season?

MR. LYMAN: We did not cultivate them late. The growth was superb, but it is the root, or the protection of the root that it is necessary to guard.

Q. Did you ever try refuse salt for the fertilization of peaches?

MR. LYMAN: I would not have any confidence in it.

A MEMBER: It is one of the best things you could use.

MR. LYMAN: There is one thing about it. I want to bring up a point here, and that is the matter of borers. For the first fifteen years or so I did not do much hunting for borers, but now we have to hunt for them every year.

Q. What did you do, wash the trees when they were young?

MR. LYMAN: I do not believe that is of much use. The fly will get around just the same.

A MEMBER: If you put the wash on strong, it will work first rate. You have got to do it twice. You ought to do it along a little late in the season.

A MEMBER: I think that it ought to be put on about twice around the trees to kill the borers.

A MEMBER: What kind of a wash?

A MEMBER: Two ounces of potash to eight quarts of water, or some good ashes, that is just as good. If you give them a good strong dose of ashes it will always help. Another thing, take a swab and wash your trees when they are small. If you do that twice a year, you will not have any borers after that.

MR. LYMAN: I hope you are successful. I congratulate you if you can keep them out in that way.

MR. ROGER:: How often do you hunt for borers?

MR. LYMAN: Twice in the season. There is a point that I would like to bring up. You have got to grow your crop of wood for the next year's crop. There is a point that you do not hear often mentioned, and I want to bring that before you. I would like the opinion of the peach growers here as to whether it is not the wood that makes the best growth in the fall that the buds will come on that go through the winter the strongest. I think there is such a thing as keeping a tree growing right up into November, but if the bud ripens too early, that bud is apt to start too soon in the late fall. If you have an unusually cold snap, and then it comes off warm, they will be much more likely to die through the winter. Of course, there is to be a medium. You can overdo. But I believe in giving the tree something to feed on, in keeping up the root growth in the fall by having fertilizer there ready for it. I believe in that way those buds can be made strong, and go through the winter in better condition.

Q. How late do you cultivate your small trees?

MR. LYMAN: It depends entirely upon the season. You must cultivate for the moisture in order to keep them growing, but it is a mistake, I think, in our climate, where

we are subject to these protracted drouths, to stop cultivation too early. We have had a very dry season for the last three years and are very likely to have a continuation of them.

Now as to this matter of fertilization. Someone asked me a question about that. I would like to talk a little further on this subject. We have got all kinds and conditions of soil on our place. I consider that most any kind of old soil is good enough for peaches, provided you haven't anything better, and provided further, that the drainage is right. I have succeeded on nothing but a gravelly knoll. I have a piece of land in mind on which I never had seen anything of value grow. The peach trees came along very well. The color was all right, in fact, you can get good color most any time with the right kind of fertilization and proper cultivation. I believe peaches can be grown on most any kind of soil. Do not be mislead by the statement that you must have a sandy soil to get good color. You can get it anywhere, if you only treat your trees right. There is a wrong notion, I think, about putting in a lot of fertilizer for the succeeding year's benefit. Put on your fertilizer each year, and have it where the tree can get hold of it at the right time. If you see an orchard that is not coming up to the scratch, that is not right, give it something that will take hold the next time, and look out for a balanced ration when you put it on. You must be absolutely certain that the essential elements are there, and that they are available. I cannot emphasize that too much, because it has been sadly neglected. That, to my mind, is one of the most important points. It is just as important to make up a proper ration for your peach trees as it is to make up a ration for your cows, or for anything else that you grow on your farm. There is no place where good judgment comes into play to any better advantage than that. It is the easiest thing in the world to knock out a herd of cows by too much protein. You have got to know

how to feed them right to get the best results. So I believe you can knock out a peach orchard. I have seen time and time again cases where barn-yard manure was used. The fruit had no flavor. Too much nitrogen. Still there are lots of things we do not know about fertilizer yet.

I want to bring up another point. *Pruning*. That is a point where we fall down at times. I have every known method, or have adopted every known method of pruning on my place. If anybody goes there and looks at my trees I leave it to them if that is not so. There ought to be some best way. I have been feeling my way, and can now see that with some varieties different methods of pruning ought to have been adopted. There are some varieties of peach trees that grow open all right. You do not have to do much inside work on them. I do not do any inside work at all for my first crop, or until the fifth year of growth. From the beginning of the third year, say, with three year old trees, I would leave everything inside. That is where the fruit-wood is. The point is to take out the exceedingly thrifty growth that is sure to interfere with the growth of the fruit wood in the middle of the tree. If you do not get that out, the tree is going to go up too much in the air.

Q. Perhaps it is all in growing them on the right kind of soil.

MR. LYMAN: Oh, no, nothing in it. Nearly all land is fine for peaches. You want to get over the notion that you have got to get a particular kind of land. You can get most any land in shape for peaches if the location is right. Go right to work and set them out. I would not cut off a sprout lot and set them right out, because I think there is acid in the soil that has been spread through the ground by the roots. Perhaps it will take two or three years to get the trees to growing right but it can be done. There may be people who have succeeded all right, but I

have not had much success at it. I think Mr. Henry will tell a different story. I have observed that it usually takes a little time to get them to growing really well on sprout land.

Q. Do you use lime in any form?

MR. LYMAN: We bought a carload of lime a year ago, and spread it all over our meadows. I wanted to see whether my land needed it. I have been fertilizing for the past thirty years with acid phosphate contrary to all of the rules laid down by the Experiment Stations. I was told very early in my farming career that that was a good thing to do, and I have been at it for thirty years, and have never had a failure yet.

THE PRESIDENT: What was the result of this liming?

MR. LYMAN: I did not get any result. There was no increase of crop. I am not giving it up. I am using the Thomas slag. I am using that for the soluble phosphoric acid. I am using that alongside of the acid phosphate on the other part of the field. I am going to try it out. It will take three or four years. I am told it will produce a fine color in peaches. We put the slag into a field of Elbertas, and the result was very good. I am not so sure but the results were just as good as with the acid phosphate. I buy about a hundred tons of it, and always have it on hand. I believe that you farmers make a great mistake in not using the cheapest form of phosphoric acid. It is most valuable, and it will produce your corn, potatoes, and everything else. I was in the potato business myself before I started growing peaches, and I started then to use the soluble phosphoric acid. I used muriate of potash and tankage. With that alone I could not get any potatoes. I did not get a crop worth a cent. As soon as I put on a little acid phosphate that addition brought a fine crop, and it makes about as good an addition as I can make. I think the addition of soluble nitrate might produce an earlier crop. Might force the potatoes somewhat.

Q. I would like to ask what percentage of the basic slag you consider as available the first year?

MR. LYMAN: You ask me a question that I cannot answer. The Experiment Station people perhaps can answer it all right.

MEMBER: I would like to ask Mr. Lyman if he will give us the formula for that potato fertilizer?

MR. LYMAN: I take four hundred pounds of muriate of potash, eight hundred pounds of tankage and eight hundred pounds of acid phosphate. That makes a fine combination for a good crop. If you want some very early potatoes you can put in some nitrate of soda, or something of that kind.

Q. How much of it would you put on?

MR. LYMAN: I would use a ton to the acre.

A MEMBER: Will you please repeat that formula?

MR. LYMAN: Eight hundred pounds of tankage to eight hundred pounds of acid phosphate and four hundred pounds of muriate of potash.

Now as to muriate of potash, you will be told by everybody that that is not a good thing to use for potatoes. I never used anything else, and I made a failure of potatoes; that is, in growing them commercially. Our land was not adapted to it, but where I succeeded in growing potatoes I always got good ones. I thought I had better let the other fellow raise the potatoes, and I would raise peaches. There is not anything that you can get your money's worth out of any better, when you can get anything at all, than you can out of fruit, and especially peaches. It is always a surprise when you get a crop of fine peaches. There are also just as big disappointments in the business. I am a sort of an optimist in the matter of peaches and farming anyway. You want to look at it intelligently and not contract too much of my spirit. It may cost you some money if you do. So I warn



you, you want to be careful not to get into trouble from anything that you have heard me say.

Q. Do you use acid phosphate in all of these crops?

MR. LYMAN: Yes, everything.

Q. And you make the same application to all of the different kinds of soil, no matter whether you are on heavy soil or light soil?

MR. LYMAN: I put it on, but not in the same quantities.

Q. But of the same quality?

MR. LYMAN: Yes, I want that available fertilizing ingredient in that soil. In the peach business I have, as I have already said, found it very useful in promoting the growth of the trees. I want something there to regulate, or rather to promote tree growth in that way. I would rather have it than most anything else I know of.

Q. Have you tried ground bone?

MR. LYMAN: I did try it out.

Q. You do not use any ground bone at all?

MR. LYMAN: I tried it out, but I did not like it.

Q. No stable manure?

MR. LYMAN: I have got plenty of it, but I do not want to put it on. There are places on the farm where I think it will do better than to put it in the orchard.

Q. Would you say that under ordinary conditions it was not a good thing to put on an orchard?

MR. LYMAN: I do not want to say that. I do not use it in my orchards simply because I think there are other places on the farm where I can get better results from it.

A MEMBER: I know a man who has about twenty acres in a peach orchard, and he uses exclusively New York stable manure as a fertilizer. He uses nothing else, and that man has made nine crops in ten years. It has made him rich.

MR. LYMAN: Yes, but he might have got a great deal richer than that if he had used something else.

A MEMBER: He grew the very best peaches. I am not an advocate of stable manure, but in this case it did very good work.

MR. LYMAN: Yes, and that fellow ought to keep on the way he is going.

A MEMBER: Well, he kept on the way he was going, and he died very well off for a farmer.

A MEMBER: That reminds me of the story of a German who was sick with a certain disease. He had a doctor, and the doctor told him that he must not eat sauerkraut. The doctor left instructions with his wife to give him certain medicine, but to give him no sauerkraut. After the doctor was gone, the German said to his wife "I will never be easy until I have a plate of sauerkraut, because I could not die easy without some." So she gave him some sauerkraut, and, to her surprise, he got better. Then she called up the doctor, got him out of bed, told him what she had done, and asked him to come quick. The doctor came and he was very much surprised to find the man better. So the doctor made a note of this, that sauerkraut was a sure cure for that certain disease. A little while afterwards he had a case of the same disease in a Irishman, and he prescribed sauerkraut. Immediately afterwards the Irishman died. Then he made a note in his book: "Sauerkraut sure death to Irishmen." (Laughter.)

MR. LYMAN: There are exceptions to all rules. That story emphasizes the fact.

Q. Did you put that acid phosphate on clear for potatoes?

MR. LYMAN: I never said any such thing. Oh no. I would not any more, than I would nitrate of soda. Look out for nitrate on your peach trees alone.

Q. I was speaking of it on potatoes.

MR. LYMAN: Well, I am out of the potato business, and I do not know how it would work now. When I tried it, it was all right.

Q. I wanted to know whether you put it on clear or not.

MR. LYMAN: I would put it on by itself, if it is all right, but you cannot always tell with the mixed fertilizers that you buy. I would rather have chemicals on hand and mix them up myself. Then I can mix them up as needed.

MR. FANTON: What do you do with your barnyard manure?

MR. LYMAN: Grow hay with it. When we seed down our land, our meadows, we give them a pretty good dressing of stable manure, and we are certain of clover.

MR. FANTON: That is the time you sow your grass seed?

MR. LYMAN: Yes, sir.

MR. FANTON: You sow clover seed?

MR. LYMAN: Oh yes. Have to put the seed there.

A MEMBER: Do you put your stable manure on corn?

MR. LYMAN: It is not absolutely necessary to use stable manure to get a good crop of corn. Of course, stable manure helps to furnish nitrogen, and in that way assists in producing a good big heavy stalk. I have found, as a rule, that where you have a heavy sod turned under you do not need any more nitrogen than there will be in that sod. I have grown splendid crops of corn with just this. I would advocate putting chemicals on the fields at a distance from the barn, and put your stable manure on fields near the barn. But, of course, you must have nitrogen to keep it up. The nitrogen comes into the corn out of the sod the first year, and if you are going to keep it up you have got to put on something else.

MR. FANTON: Do you put all your manure on your grass land?

MR. LYMAN: We put some on the meadow land as a top dressing. I do not like to plow under any fertilizer. It does not make much difference in the orchard. You can turn it under all right, of course, but I do not believe in plowing under anything for grass. I would rather have it on top.

MR. BARNES: Do you use any potash before your peach trees come into bearing?

MR. LYMAN: Saltpeter contains potash. I do not try to grow a tree without giving a balanced ration during the whole life of the tree. When you are getting a big crop of fruit I do not think that all peach growers are aware what a drain the trees and the crop are upon the soil. I do not believe that tobacco will draw any greater quantity of water from the soil than peach trees with a big crop of fruit on them. The reason why I think so is because where you pull up an old orchard the land will not grow anything unless you give it a lot of fertilizer. I think in any case that we can produce a good growth if we only feed the trees properly, and I do not believe in putting on simply a hit-or-miss lot of fertilizer. As I said before, there is some guesswork to it, but your experience and watching the orchards is usually a pretty safe guide. I am all the time experimenting to see if I can find out what is the cause of this yellows business. I would like to know what the cause of it is. To illustrate: I had a couple of pieces of not to exceed four or five acres. We did not get any good flavored fruit off those trees. I have been studying, trying to find out what it was that produced that condition. It is fortunate that we had no more trees than we did in that condition. It was evident that they were not right. Something was wrong there. On one little block I gave them a bag of saltpeter. It was no more than I had just done at the same time on these Chairs Choice, but the results were

very different. I would not want to say what did it. All a man can do is to study his own conditions, and make up his mind. You can go around and see how things are doing with other growers, and in that way get a lot of information. But you have got to study the situation yourself. A man cannot learn the business of raising peaches in any other way except by experience, just as he would learn any other line of business. A man would not go into the grocery business unless he had had a little preparation. He really ought to clerk it for two or three years. It is much the same in the fruit business.

PRESIDENT GOLD: We have had Mr. Lyman on the platform now for some time, and it will be necessary to bring the discussion to a close at this point. There will be an opportunity to ask Mr. Lyman some further questions this afternoon. It is now time for us to take a recess for lunch. We are to have Mr. Stevens this afternoon, and I am sure the program for the afternoon is one in which you will all be interested. We are also to have an address on the packing and shipping of fruit by Mr. Thompson, who comes to us from Canada. We will now take a recess.

At 12:45 a recess was declared until the afternoon session at 2 o'clock.

## AFTERNOON SESSION.

At 2 p. m. the closing session of the annual meeting was called to order. President Gold in the Chair.

PRESIDENT GOLD: Ladies and gentlemen give your attention and we will take up the program of the afternoon. The first business is the consideration of a resolution prepared by Mr. Cowles on the subject of "Postal Reform." The resolution is now before us and I think is in proper shape for your action.

The Secretary then read the following resolution:

*Resolved:* That the Connecticut Pomological Society at its annual convention at Hartford, Conn., February 3rd, 1910, recognizing the great need of additional postal facilities, hereby requests Congress, at the present session, to provide the United States with a Parcels Post service as extended and as cheap as that of any other country in the world;

*Resolved:* That a copy of these resolutions be sent to our Senators and Representatives in Congress, and also to the Hon. John W. Weeks, Chairman of the Postal Committee of the House of Representatives.

*Resolved:* That the various agricultural societies of the country are hereby urged to join with us in this movement."

PRESIDENT GOLD: Gentlemen, you have heard the resolution.

MR. SMITH: Mr. Chairman, I make a motion that this resolution be unanimously adopted, and that a copy be sent also to the President of the United States and to each of the four Postmaster-Generals.

Motion seconded.

PRESIDENT GOLD: Gentlemen, you hear the amendment to the resolutions.

A MEMBER: Mr. President, I second the amendment.



PRESIDENT GOLD: Any remarks? The amendment is that we send a copy of these resolutions to the President of the United States, and to each of the four Postmaster-Generals, that is, the Postmaster-General and his assistants, I suppose. Those in favor of the motion will signify by saying "Aye." Contrary minds, "No." It is a vote. The amendment is adopted. The question is now on the passage of the original motion. Any further remarks? Those in favor of passing this resolution signify it by saying "Aye." Contrary minds, "No." It is a vote, and the resolutions are passed.

We will call on the Committee on New Fruits to make its report, Mr. John R. Barnes, Chairman.

MR. SMITH: Mr. Chairman, Mr. Barnes said that he might not be able to be here this afternoon, and he left the report with me in case it was called for.

PRESIDENT GOLD: We would be glad to hear the report.

MR. SMITH: As a member of this Committee I am not satisfied with the part I had in making up this report, from the fact that I did not know that I was on the Committee until recently. No notice has ever been given me by this Society, so I feel like apologizing for any part that I had in it, because it is entirely, or to a great extent, the work of Mr. Barnes. The most important part of it has been written by Mr. Barnes, who was the Chairman of the Committee.

## Report of Committee on New Fruits.

Your Committee has not a long list of fruits to report upon this year and many of these are not new in the strict sense of the word, but are comparatively new in this locality and to the majority of the members of this society.

Among apples, we would mention *Opalescent*, which is a promising apple; its season is early winter; is large in size, fine in quality, with a beautiful waxey skin like the McIntosh,

but of a brighter red. The tree is a good grower and an early and abundant bearer.

*Rome Beauty* is not by any means a new variety, but is one of those that have come to be recognized as a valuable commercial variety over a wide extent of country through its own merits, never having been advertised or pushed. It is a large, red striped apple of fair quality and in season from December to February, but may be kept in storage till May. The tree is not a strong grower when young and would probably be better grafted on a stronger growing stock, but it does very well without and comes into bearing early; trees three to four years planted having specimens frequently. I think Connecticut is about its northern limit in the east to do its best.

*Ensee* is probably a seedling of *Rome Beauty*, originating in the same locality in Ohio about thirty years ago. After about fifteen years it commenced to attract attention locally, and since then has been disseminated in a somewhat experimental way. The fruit is said to be somewhat of the same size and color as *Rome Beauty* with quality of *Grimes* or *Jonathan*. Its season is early winter at its home in southern Ohio, and no doubt in this latitude would be a good keeping winter apple. It keeps well in storage. The trees are better growers than *Rome Beauty* with more healthy foliage and frequently bears at four years of age.

Of peaches we have fruited *Hynids Yellow*, which was said to ripen with *Mountain Rose*, but with us it came more nearly with *Early Crawford* and of too dark a color to be attractive.

*Munson Free*, a seedling of *Elberta*, ripening a week or ten days after and of the same shape and fully as large. The color was not of the best, but the trees were young and the foliage heavy, which may account for it.

*Ticbout*, of about the same season as *Munson*, but not quite as large, and more round in shape.

*Gold Mine*, has been with us one of the most prolific bearers of yellow peaches, ripening with Late Crawford or a little later, needs to be well thinned when it gets to a good size.

*Perfection Currant* seems to fulfill all claims for it as the best all around currant.

*Brilliant Grape*, one of the best of Munson's productions for northern planting, is slowly being introduced into this state, particularly by amateurs. It is believed to be able to stand 15 degrees below zero. It is a cross of the Lindley and the Delaware, and almost as high in quality as the Delaware, with a larger bunch, and a more attractive red color. On a small scale it is being planted commercially in New York state. The vine is fairly healthy, and is vigorous.

*Elvira Grape* which originated in Missouri, is enormously productive in this state, as everywhere. It is a seedling of Taylor, and greenish white in color. The bunch is small and very compact. The vine is very strong, vigorous, and healthy. The berries sometimes crack, making it unsuitable for market; and the flavor is thought by some to be inferior; but amateurs will find it of great value for Connecticut planting, as it hangs long on the vine and keeps often till the holidays if extra care be taken in its preservation.

*Goethe Grape* comes from the south, where it does best; though it is one of Rogers' seedlings; and it has in it considerable exotic blood. It ordinarily requires too long a season to ripen fully here in the north; but when it can be ripened, as it was easily last fall, it is superb for home use, and, owing largely to its very thick skin, can be kept until midwinter. The berries are large in size, ovoid in shape, and green in color, with a pale red to the sun. The bunches are very irregular. It could hardly be used as a market grape in the north, under any circumstances.

*Idaho Pear*, which came from Idaho a few years ago with strong commendations, is decidedly inferior in this state, and

should never be planted, even by the amateur. The foliage is unhealthy, the fruit unattractive, and the flavor very poor.

*Burbank's "Wonderberry,"* now being sold by some under the name of "Sunberry," should be studiously avoided by all real lovers of fruit. One in ten may possibly like it; but the majority find it unworthy of dissemination.

The Committee on New Fruits, in order to make its reports of value, should have the co-operation of all the members of this Society; and without such co-operation it is difficult for the members of the committee to make any report that is thoroughly comprehensive and valuable.

Respectfully submitted,

JOHN R. BARNES,  
GEORGE W. SMITH,  
HARVEY JEWELL.

PRESIDENT GOLD: You hear the report of the Committee on New Fruits. What is your pleasure?

Motion that it be accepted and printed in the annual proceedings made, seconded and passed.

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PRESIDENT GOLD: The next business that is now before you is the election of officers. I would call on the Chairman of the Nominating Committee for his report, Mr. Cook.

## Election of Officers.

MR. A. B. COOK: Mr. President, Ladies and Gentlemen: Your Committee found that there was a strong demand to have our present President serve for another year. Having that in mind, your Committee interviewed Mr. Gold, but without any success. He told us that under the circumstances he did not see how he could serve another year; and we also found there was a vote upon the records against any President holding office for more than two years in succession.

Consequently, we had to drop Mr. Gold's name, very reluctantly.

Your Committee would respectfully report the following list of nominations for officers of this Society:

*For President*—E. Rogers, of Southington.

*For Vice-President*—George A. Drew, of Greenwich.

*For Secretary*—H. C. C. Miles, of Milford.

*For Treasurer*—Orrin Gilbert, of Middletown.

*For County Vice-Presidents:*

*Hartford*—L. C. Root, of Farmington.

*New Haven*—A. T. Henry, of Wallingford.

*Fairfield*—G. C. Comstock, of Norwalk.

*Litchfield*—C. S. Phelps, of Salisbury.

*Middletown*—G. W. Spicer, of Deep River.

*New London*—W. I. Allyn, of Mystic.

*Windham*—E. E. Brown, of Pomfret Center.

*Tolland*—J. R. Houston, of Mansfield Depot.

Also this Society is asked to nominate a candidate for Connecticut Vice-President of the New England Fruit Show. As I understand, this election will be held next January before our next annual meeting, and your Committee would suggest the nomination of Mr. C. L. Gold of West Cornwall.

PRESIDENT GOLD: Gentlemen you hear the report of the Nominating Committee. What will you do with it?

MR. HALE: I move that the report be accepted as a whole, and the Secretary be directed to cast one ballot for the officers as named in the Nominating Committee's report.

PRESIDENT GOLD: You hear the motion. Any remarks? Those in favor will signify it by saying "Aye." Contrary minds, "No." It is a vote.

The Secretary will cast the ballot. While the Secretary is casting the ballot, I will request the Chairman of the Nominating Committee to bring Mr. Rogers to the platform.

SECRETARY MILES: I cast the ballot of the Society for the list of officers as reported by the Nominating Committee.

PRESIDENT GOLD: I declare the following officers duly elected for the ensuing year:

*President*—E. ROGERS, of Southington.

*Vice-President*—GEORGE A. DREW, of Greenwich.

*Secretary*—H. C. C. MILES, of Milford.

*Treasurer*—ORRIN GILBERT, of Middletown.

*County Vice-Presidents:*

*Hartford*—L. C. ROOT, Farmington.

*New Haven*—A. T. HENRY, Wallingford.

*Fairfield*—G. C. COMSTOCK, Norwalk.

*Litchfield*—C. S. PHELPS, Salisbury.

*Middlesex*—G. W. SPICER, Deep River.

*New London*—W. I. ALLYN, Mystic.

*Windham*—E. E. BROWN, Pomfret Center.

*Tolland*—J. R. HOUSTON, Mansfield Depot.

President-elect Rogers was escorted to the stage and President Gold addressing him said:

"Mr. Rogers, you have been elected President of this Society. I heartily congratulate you, and trust that you may have as much pleasure in conducting the office as I have had. I wish to thank the Society for having honored me, and I certainly have enjoyed the work and reaped much profit from my associations with you and from the work of the Society. I thank you all very heartily for the honor and pleasure which I have had at your hands."

President Rogers then took the Chair and addressed the Society as follows:

"Ladies and Gentlemen, Brothers and Sisters, and Members of the Pomological Society: I hardly know where to begin, although I have been with you as Vice-President I believe, for four years. I would like to say at this time that I appreciate the honor that you bestow upon me, and I thank you for it. But there is one thing that I want at this time and



feel that I must request of you. I am going to take this office and work for you. I will accept the office with the understanding that this Society must give me its support, for I believe that I will need it greatly. With that understanding, if you are willing to work with me, why, I will accept the office and work with you. I believe at this time that there is a great opportunity for this society. I believe we are just on the threshold of a great opportunity in fruit growing, not only in this state but in other states. One thing that I am proud of is that Connecticut, the way it looks to me, is at the head, and I am in hopes that at the end of the year we will still be at the head in this line of work. I thank you for the honor." (Applause.)

The next thing, I believe, on the program, is an address by Professor Stevens, of Storrs. Is Mr. Stevens in the hall? It gives me great pleasure to introduce Professor Stevens, who will deliver an address on "How to Increase the Profits from Berries and Market Garden Crops."

## How to Increase the Profits from Berries and Market Garden Crops.

By ALVA T. STEVENS, Assistant, Horticultural Department, Connecticut Agricultural College.

Ladies and Gentlemen and Fellow-workers of the Pomological Society: It is a pleasure to appear before you this afternoon. This is the largest class I have had this year. Ordinarily my classes number only about forty-four or forty-five, so I will not stop to call the roll. I am afraid that what I shall have to say this afternoon will not be very deeply appreciated. Last night when I was over attending the banquet, and again when sitting here to-day and yesterday after the session commenced, I heard bright, witty speakers, the applause on the points which were made, which went to the bottom of this question of fruit growing. I heard one man

after another get up and say about the same thing as I had intended to say here this afternoon. So I shall bring you no new messages. I feel a good deal like the fellow where I was attending a football game once. They had a large lemon suspended with a string, and when each player got a little winded, he went up and squeezed wind out of the lemon. About nineteen or twenty had squeezed the lemon, when Jim came up, and one of them said to him: "Jim, that has been squeezed about a dozen time, and there isn't very much juice left in it." Nevertheless, Jim squeezed it, and he says: "Yes, there is a little." So with me here to-day. I think there is a little juice still left in this subject of fruit growing. Each time we take up for discussion the different phases of fruit growing we get a little juice out of it.

For the 99th time I congratulate the fruit and vegetable growers of Connecticut on the admirable location which they have. We are right at our markets. We ought to know the conditions in which our products go to the consumer's door. We have reason to know. We have the advantage of the distant grower in that respect. We hear a great deal nowadays of Florida, that land under water, and what is not under water covered by crocodiles,—we hear a great deal about the enormous profits made from that Florida land, quite a good deal of which has been bought up and is now being used by a lot of good New Englanders down there. I do not believe most of you would enjoy life there very much, because they are working at a disadvantage, and have a very long distance to ship their fruit. What can be the flavor of strawberries picked very often just as the pink begins to become tinged with red, put into boxes and forwarded many hundreds of miles to some commission house, or some other place by various and different methods? How does that flavor compare with the flavor of a berry which has been ripened by Mother Nature? There is no comparison whatever. That fact alone should give northern berries the market. Constant care by all New Englanders in the fruit and vegetable grow-

ing business should enable them to command these markets because they are able to lay down fresh fruit and fresh vegetables, which have a much better flavor and are in much better condition than those shipped from the south. I have not got a bottle of that medicine that our good friend from Massachusetts mentioned yesterday that I can uncork and make a specific for all ills. I shall not attempt it from the fact that it would be impossible for every man who may enter the business of vegetable or fruit growing to make a success. Now the man in this business is, perhaps, as much a factor as any other one thing that enters into it. There is not a man before me, I expect, but what in his present memory has in mind men who have made farming a business, and who have made it a business success, and that, too, right alongside of the farmer who has made this success, is another man on equally as good, if not better soil, but who, nevertheless, has made a miserable failure. Now then we can see that it is a profession, that it is a business in which the man himself is a very great factor towards success. It is simply good management on the part of the man. I have in mind at the present time, with all due consideration and due respect to the people of whom I shall speak,—a Jewish farmer who bought a farm near me in Michigan. He was a man who had considerable money to begin with. He bought one of the best farms in the locality. A mile and a half away another Jew bought, at about the same time, what was called in the vicinity one of the poorest farms around there. This Jew that bought the land in the good locality made a failure, and the other man that went over in the other locality made as great a success of farming as any man in his locality. It was the man. A man to be successful must know first what the market he supplies demands. He must know how those particular products should go into that market, in what form. He should know the adaptability of varieties to different soils. He should be a man willing to work, not necessarily long hours, yet I must say to you here that we do not have

any eight-hour labor laws in the fruit business or in the vegetable business. When I first thought of going into the fruit business, I went and consulted a man who had been secretary of the State Board of Agriculture of Michigan for a number of years. I thought that his advice would be worth considerable to me. I said to him, "Mr. Monroe, what do you think of a man making a success in the fruit business?" "Why," he said, "if a man begins at the roots of a peach tree, and examines that tree, every inch of it, every particle, and everything about that tree, to see what is the matter with it, if anything, there is not much fear about his making a success in the fruit business, but unless a man is willing to do that, he better stay out of the business." Like a darkey I heard of who wanted to study medicine, but he thought his best course was to go and be a driver for a white doctor, and in that way pick up a good deal about medicine. After he had been with the doctor quite a time and gained his confidence, he drove into the country with him where he had a very sick patient. He thought he would observe the diagnosis of the case. It so happened that the patient was worse that afternoon. Of course, the doctor had to have some apology, and he at once flew into a rage at the nurse and the people because they had let his patient have some raw oysters with vinegar on them. That darkey did not know how to make that out. The doctor saw there was something weighing on his mind when they started away, and so he said to him, "What are you thinking about?" The darkey said, "I want you to tell me how you knew that those people had been feeding that patient oysters with vinegar on?" "Why, Jim," he says, "you want to be observing and careful." "Well, what did you see?" "Why, Jim, didn't you see that plate with the knife and fork on it under the bed? Well, you want to notice things." The next morning the doctor wanted to know how the patient was, and so the colored man drove out to the house, and asked how the patient was. They said the patient

was dead. He looked all around and then drove back; got back to town, and the doctor said, "How did you find the patient?" "Dead, Massa." "Yes sir, he is dead, Massa." "What is the trouble?" "Ate horse." "Ate horse?" "What do you mean?" "What do you mean by talking that way?" "Why," said the darkey, "there was a saddle and bridle under the bed." (Laughter.) Now I told that story just to illustrate this point. Success in fruit growing or in vegetable growing is in part due to observing along the right line. There are a great many tendencies to failure, a great many failures among farmers, and I think one of the causes is because the farmer often shifts from one thing to another, and does not stick to one particular line long enough to thoroughly master all of the details which are necessary to success. So it is with the farmer who shifts from one work to another, and so it is with any man who shifts from one work to another over the country. When he has got into a certain thing, a man of that type does not stay, but he is soon gone into some other line. Just when he begins to learn what there is in that business he becomes discouraged, throws it up and goes into some other line. Now, no doubt, many of you know, within your experience, people in your locality who figure on some new line of work along the line of agricultural production, and then carry that out and make good money at it. Did you ever see a person do that in your locality for any length of time? Very soon the business is over-crowded. A good illustration of this vegetable business is afforded by another instance from Michigan. Some twenty years ago, I think it was, a certain man went to Benton Harbor, Mich., and began growing the Egyptian onion. He found that if he could get them into market along the latter part of March or April he could get a good market and a good price; that he could get from two to three dollars a crate. People in Chicago were crazy for those onions. There was just one man of whom they could be obtained at that time of year. That man went into the business and did well.

The next year there were two men growing them. The next year more went into the business, until it got so that it wasn't anything for a farmer to have ten acres of those onions. The bigger the supply the lower went the price. So you see the business was overdone. So it is, the farmer will sway from one opportunity in farming to another. Some of them will just get into the business and find that they have gotten into the business too late. We oftentimes find that in some particular locality like this the market is overcrowded with this particular commodity, when, perhaps, there are a half dozen other commodities in which there would be good money, and of which there is no supply whatever. Now what we need is more organization among the fruit growers and vegetable growers, more societies and organizations among market gardeners in certain localities, so that they may know and inform themselves as to methods, and which product is being raised by each farmer. In that way they will be able to understand what the market needs and supply it. Why is it that we have so many manufactures in which each knows how much of this commodity is going to be needed? There is a demand for this. There is so much of this put into the market, and so the old law of supply and demand works, but where there is no unity of action, we cannot always depend upon the law of supply and demand.

Now I do not expect that any man who has a farm purchased will, perhaps, sell his farm because of anything I say this afternoon, but when I go out to farmers' meetings, friends, I like to talk as if I was talking to my boys in my classes, because I know there are some men who are after the primary ideas that they want to use. If a man is going into the vegetable or fruit business, it is not at all likely that he would select a farm with all of one kind of soil. If a man is a farmer and contemplates going into the fruit business, it is then up to him to study the nature of the soils that he has on the farm, and the requirements of the crops, and the proper places for putting these on the farm. Other-



wise he will make a grand failure. We ought to study not only the adaptability of the different soils on our farms in which to plant crops, but the different varieties and species, and even different varieties of the same species. You all know that there are certain varieties of apples that do not do well on all kinds of soil. So with pears. The Keiffer pear, which everybody thinks bad, won't do well on any kind of soil, although it will do about as well as anything I know of. There are not many people who want to grow Keiffer pears, because there is not much profit in them. You can grow them in most localities. It does not matter what the man is going to grow, he wants fertile soil. I believe that a good many people have the opinion that they can grow fruit on most any kind of soil. I want to combat that notion to-day.

People sometimes plant on soil that would not grow white beans. We see them sometimes sow grain on a sandy soil, or on a soil which does not possess the necessary plant food for a grain crop. The farmer must learn to avoid things of that kind. The second largest corn crop ever grown was on a piece of land which was cleared of its timber. Never had been planted with any other crop before that. It seems to me that that instance is sufficient evidence to show that we want fertile soil even for strawberries. If we have fertile soil, I do not think we need worry about the leaf spot and other diseases of strawberries. This can be overcome. A good soil is the basis of the whole scheme. I thought Mr. Drew brought out yesterday a good point when he said that if the soil is not in proper condition we can oft-times change it. Suppose there is too much excess moisture there; a tile drainage system will remove that. If we are going to plant this to a peach orchard, as the trees continue to grow they will pump the water out through the leaves, the leaves fall and make a mulch on the ground, which helps to keep the moisture in. Try to keep up these natural conditions of soil, and we need not worry so much about our crops.

We ought to look after that and replenish the condition of the soil, put it in condition necessary for growth of the tree, if that is what is required. So then, first get the soil right, get the water out of the soil, so that the air can get into it, get the right mechanical conditions, and then we can get the right chemical conditions.

I believe in mulches. I do not believe that we as farmers keep the soil shaded enough. Mr. Lyman said here this forenoon, that bacterial action takes place in the soil that is shaded. Many of you, no doubt, have been to the southern states. I spent three years in North Carolina. The soil there is destitute of vegetable matter. Any ordinary rain will wash great gullies in it. What we want to look after is to getting this vegetable matter into the soil and keeping the soil light and loose. If we do that, we will not have these great changes in our plant production, in my opinion. I asked Professor Gulley, when I came to the Connecticut Agricultural College, where his black raspberries were. I said to him one day that I did not see where his plantation of black raspberries was. He replied that he did not have any. I said, "Why not?" "Can't grow them here. We are so badly troubled with Anthracnose it kills all the plants." In looking around the premises of the Connecticut Agricultural College I found three localities where black-cap raspberries were growing. It was not out in the field where they were cultivated. Last year I picked some splendid berries off of these bushes. Those I found the first season that I was there. Now I know of three places where these are growing under practically the same conditions. I know of one plant, and I will defy you to find a spot of anthracnose on it. It is due to too much cultivation. That is the trouble. It will kill the raspberry.

Now as to mulches. I said that I believed in mulches. We can secure mulches in various ways. Those of you who have the stock sufficient, of course, can get a mulch from your grain. Even buckwheat straw makes a good mulch for fruit.

I would respectfully recommend that it is a good plan to even rake up leaves, if you can. Do any of these things, and they will help you to get a mulch to protect your fruit. For instance, if strawberries and raspberries and currants are on a rather late soil, they should have a cover crop. You can secure a crop that will serve as a cover crop, and have a very good mulch for your strawberries or currants. You can do that by sowing oats. Sow these oats early enough so that they will come up to a joint anyway. They will waste very much easier, fall down, and make a splendid mulch. That is the only fault I ever found with them. Sometimes this crop will fail, but otherwise they do make a splendid mulch, if you can get body enough.

In the cultivation of fruit, the exposure or slope of the land is an important thing to consider. We should be all the more careful not to select a wrong exposure for the plants. Let us study that a little. I know that a great many people here come from a locality where you have the trailing arbutus. You never see that growing in a sun-shiny, exposed place, where the bright rays of the sun shine in on it and warm it up. I know of a place in Michigan where there is a little creek running along. Where this creek runs in a north and south direction the sun strikes in on the eastern slope. I go along through the little valley and take a sharp turn around here, and not five rods from this point, where there is not a bit of sun, I have often found a bountiful supply of arbutus. Now what was the reason of that? Apparently, the soil was the same, but the conditions were different. It was the exposure. When the Excelsior strawberry first came out, I had a neighbor in Michigan who had some warm sandy land. He said to me, "I am going to have the first strawberries of that variety in this locality. I am going to put them in a particular spot, where there is a southern exposure, and where they will have the bright sun. The plants made a splendid growth. In the fall he went out and mulched these with coarse horse manure. The next spring the berries

blossomed profusely, and it looked as if he had made a success of it. He thought he had his pocket full of money. (Sometimes even after you ship a crop of fruit the commission house get the money.) Well, in the case of my neighbor, instead of reaping a large reward, the crop was a failure. He did not pick more than three crates of strawberries. An unseasonable frost cut down his plants. There is where we have so much difficulty in planting fruit on these warm exposures. They blossom so early and an unseasonable frost comes along and nips them, and that is the end of our prospects for a crop. That is a trouble that is very apt to overtake us, and it raises the point that in the selection of a place for the planting of fruit due regard must be given to the exposure.

Out in the west, in California and Colorado, they have been making very extensive progress by means of artificial heaters to keep the temperatures up in certain localities. You have all heard, perhaps, the story of a contemplated visit of Jack Frost in the Grand Valley, where a band of farmers in that valley, some three thousand, clubbed together and prepared smudges. Upon a night when they expected the thermometer to drop below the danger point they had all of their arrangements made and simply went to work and set these smudges going. They succeeded in raising the temperature there over an area of some twenty-seven square miles eight degrees. They were able by that means to keep it up above thirty. In California they have tried this. Of course, in any single locality one man alone by his own efforts could not get up a sufficient heat to change the temperature in his own orchard. It would be a considerable task. That would be especially true in a very large orchard. This method has not been used, so far as I know, to prevent frosts on small fruits, but I see no reason why we could not use it. By means of that expedient, they saved three millions of dollars to the state of Colorado last year. Until we are sure that we can use this method in our small fruits, we better get

exposure where we will have the best possible chance to succeed.

Now as to cultivation. I believe we cultivate too much. I believe that nine-tenths of the cultivation of fruit is too deep. What we need is to stir the surface. I am happy to say, although I always avoid speaking of any particular implement or advertising any particular manufacturer or person, yet I believe that we have right here in Connecticut one of the best implements or tools ever made for orchard cultivation, and that is the Cutaway harrow. It works the soil deep enough. We do not need to stir it any deeper than that machine does. There is nothing in competition with it. I think if we will stop and reason about this a moment it will be convincing. By what means does the plant get its food? It does not get it by the large roots. It is through the small roots that the plant takes up its nourishment from the soil. Where will these little fibrous roots that spread out go to? Why, they go where they can get food, that is, soluble food, which these rootlets are able to take, and that is the only condition in which they are able to take up their plant food. These little rootlets spread themselves out near the surface. If they are cut the plant is injured. Now if we continue deep cultivation it is going to cut off these little roots. Just keep the surface stirred, keep it stirred up so that the water does not pass off into the air. It wants it at the roots, where it can be taken up in the form of soluble plant food. That is one of the reasons why the cultivation of the black-cap raspberry in Connecticut has not been successful. There has been too deep cultivation. I believe in just enough surface cultivation to turn the weeds under and get rid of them. Get rid of the weeds, and then keep the surface stirred so as to let the air into the soil. Plow early in the season.

*Over-crowding.* There seem to be a great many who think that if they plant a large number of fruit trees or plants they are sure to reap a larger crop. Well, it is only one man in a thousand who can succeed in that way. As a

rule, we should avoid too thick planting. I do not believe in double-planting, even though you feed heavily, but believe in giving your plant plenty of room.

At the Geneva Experiment Station they have made a test of this with orchard trees by close crowding, and then comparing those planted in the close crowded condition with others planted in a more open condition. I believe in every instance the result was in favor of the open planting; that they found that the crop was decreased according as the trees were closely crowded. That is, we will say, that they had forty apple trees to an acre, on another piece they crowded on sixty or seventy. Their results were the best in every case where they had the fewest trees to the acre; that is, to a liberal amount, but where there was a good reasonable distance between the trees there, every time, the orchard showed the largest crop.

*Varieties.* I expect a great many people came here to-day with the expectation that I was going to tell them what varieties of strawberries to plant, or tomatoes to grow, or what variety of cucumber was the best. In a general way, a person can give advice about such a thing as that, that it is advisable to plant this or that. I was late at this morning's session, I happened in just about the time to hear the speaker say this,—I was rather pleased,—that while he planted a certain variety on his farm he did not know that he would recommend that to a man ten miles away. Now it is not safe for you to write off to a man in Rochester and say, "What variety of peaches shall I plant in Connecticut?" That is exactly true with vegetables. Conditions are so variable, the question of fertility of soil enters into the matter so vitally, often the atmosphere, the question of market, and the particular class of trade that you are going to supply; all those questions enter into the selection of what particular varieties a man should adopt.

Now we have heard about one apple that has succeeded here over a very large area, and that is the Baldwin. Prob-



ably the Baldwin succeeds on more varieties of soils than any other. That apple is particularly adapted, or seems to be, to its eastern environment. An apple like that can be generally recommended. Take the grape. Now people grow grapes, and many are learning to grow them very successfully. A great many like grapes. I do. Yet we do not have many varieties that will succeed here on account of the great variety of soil. The Concord comes closest to it of any that I can mention. When a man comes to the question of the variety he is going to choose, he must first ask himself if it is adapted to the market in which he expects to sell it. Now, as an illustration of this, I am going to say this. Suppose you were engaged in the greenhouse business, forcing vegetables. A man can grow green leaf lettuce to maturity a number of days sooner than he can grow the head lettuce. But the man who can mature his crop of lettuce, and get it early, is the man that will reap the profit, provided he can sell it after he gets it. Any man, however, who was furnishing the Boston, New York or Providence market, or any of the New England markets that I might mention, would have to be governed by what his market demanded. Would you advise the planting of green leaf lettuce, or loose lettuce, when the people in the market in which you expected to sell it demanded head lettuce? Why, you say at once, no. The consequence would be that if a man grew loose leaf lettuce for a market that demanded head lettuce he would be unable to sell his crop. Now that illustrates the point that I wanted to bring out. He must have a variety that is adapted to his market. If you are going to take a new variety that is little known, you might perhaps succeed with it by keeping it constantly before the public, and work it into the public mind that it was just as good. If a man can do that successfully, why then it pays to adopt a new variety.

Secondly, varieties ought to be adapted to soil conditions. For instance, a man asked a question here about the Fitzgerald peach, if it was any good, and someone in the audience

said no, it was not. I planted the Fitzgerald peach, and they are like some varieties, fine when you get them, but they rarely ever produce a crop. We had about twenty-five trees, and I do not believe we ever picked five bushels at a time on the whole twenty-five trees. So, if you have a variety, no matter how fine it may be, if it cannot be relied upon to produce crops which will give you a profit, it ought not to be selected. Another illustration is the Gandy strawberry. We oftentimes hear people say that they want a late strawberry, one that will come on late. Well, the Gandy is late. It is a nice-looking berry, but it is a berry that has got to have the right kind of soil in order to do well. When I went on to my farm in Michigan, I was trying to get along as economically as I could. I had invested about all the money I had on my farm. I did not go very far away to get my plants. I had a neighbor who had been trying the Gandy strawberry. He had been growing them about three years. I went to him one day, and I said, "What do you think of the Gandy?" "Well," he said, "it is a nice-looking plant, seems to grow well, but I do not get any crop." "Can I get some Gandy plants of you?" "All you want," he said. So I got some Gandy plants, enough to plant seven rows twelve rods long. I planted those on a piece of land which had been broken up two years before that from sod. This land was of a clayey, loamy nature, heavy and strong. The land on which my neighbor, from whom I got the plants, had been trying to raise the variety was a sandy soil. I put mine out, and the next season I netted from those seven rows twelve rods long, thirty-five dollars. The variety did well by me. My neighbor got no crop to speak of. That illustrates the adaptability of a particular variety to certain soils. You cannot grow the Gandy strawberry on a light, sandy soil, but on a heavy, strong, clay soil it does well. No one would think of growing grapes on muck. If you did you would probably have a long time to think about your fruit before you got any. No one would think of trying to

grow apples on white sand, but there are some varieties which will do very well on a light sandy soil. And so the question of adaptability of variety to soil has got to be considered all along the line. In Western New York and Ohio, along the shores of the lake they have what I term a sort of clay shale. It is a soil which is somewhat hard, the plow goes down and strikes right on to the stone formation on which the soil lies. That soil is admirably adapted to the growing of grapes. They grow grapes all along there, splendid crops of them, and of most any variety. The grape is well adapted to this soil. So that I contend that the ability to select varieties of vegetables for a particular soil, in a large way, determines a man's success financially with fruit growing. Failure to do this usually means loss.

Another thing: We should select varieties that will withstand atmospheric conditions and changes. I presume there are a great many people here who have cultivated the Brandywine strawberry. I know by actual losses, and examination of the blossoms of the Brandywine that it will sometimes have its pistils killed by frost previous to opening, and even on cold nights when the thermometer hardly goes to the freezing point it will be injured, while other varieties right alongside of it, with open blossoms, are not hurt at all. So we see that certain varieties are tender. Unless we are careful, we are apt to have that condition. I believe that the so-called Bordeaux injury to fruit is, to some extent at least, the result of the cold, wet, rainy nights that we sometimes have in the spring-time. I believe it is due to that as well, perhaps, as to the Bordeaux. In order to satisfy myself about that, I went to several places in Connecticut that never have been sprayed with Bordeaux and found this same appearance of the fruit that we get, and which is attributed to the so-called Bordeaux injury. I cannot believe that all the injury which has been laid to the door of Bordeaux mixture is caused by the Bordeaux. I sometimes regret that the bulletin was ever published which gave Bordeaux the black-

eye. Now we hear many people say that they are rather afraid to use Bordeaux because they have had so much injury, but there are a great many who do not choose to spray with it just because they do not want to spray, and they satisfy themselves by saying, I am afraid to use it because I may injure my apples. I will not run the risk. That is a question which has not been definitely settled, but I think that the injury sometimes attributed to Bordeaux may be due to season conditions.

Now then in selecting varieties it seems to me it is a good thing to select varieties which, under normal conditions, are good annual bearers. Such fruit usually sells at a moderate price. The variety which is a shy bearer, may bring a better price, but you are usually better off with the other in the long run. There are some varieties of peaches which are very heavy bearers,—quite sure to be annual bearers, but they are small because the set of the fruit is so thick that unless it is thinned you are pretty apt to get small fruit. That is true, as a usual thing. The fruit brings a low price. But which would you prefer, these peaches which are sold at a lower price, or a crop once in five years which sells at an enormous price when you get it?

So it is with black-berries. There are some varieties which will succeed well on all kinds of soil. The Snyder is the best that I know of, and yet it is small. People do not like to buy it on that account. The quality is pretty good. The Eldorado is a splendid berry where it does well, but it is more freaky about the soil that it grows on than the Snyder. The Eldorado wants a good strong soil.

Now after a man has selected his varieties, he is not through then. He is, to a large extent, in the same position as a man who adopts a child and brings it up. His authority has not ceased. He has got to look after it. So it is with the varieties that we adopt on our farms. I believe that any man who adopts certain varieties should make an effort to improve them. He ought to make them better varieties be-

fore he has had them five years. To do that, calls for observation, care and study, but it is something which will pay. We have as proof that a man can improve varieties by just care in selection illustrated in a great many things in the United States in the past few years. The cotton planters in the south have been taught by Dr. Webber of Cornell, that they can gather several thousand bales more of cotton in the same area to-day than they could fifteen years ago. One reason was that Dr. Webber, by selection, was able to increase the length of the cotton fiber to a considerable extent, and in that way the planters have been enabled very largely to increase their crop on the same area. Not only is it true that we can by selection increase the productiveness and value of our plants in that way, but we can select plants that are disease resistant. We sometimes hear it said that that is the business of the professional man, the expert who makes that particular thing a special study. Well, that may be true, to some extent, but I do not believe it altogether. I believe that every man who has good eyes ought to be able to select plants which are free from disease. No man ought to select seed from a mother plant which is obviously in a weak condition, or which shows characteristics which he does not wish to propagate. They were troubled a great deal in the south with wilted cotton, also with the wilting of the cow-pea, and wilting of a great many plants. This has been overcome by plant breeding, so that now we have plants which will resist that wilt. Furthermore, we have blight resisting plants. We have anthracnoses resisting plants. The Cumberland black-cap raspberry is not nearly so likely to be attacked by anthracnoses as many of the older varieties. The variety has been bred to withstand the attack. We also have begun to get asparagus which will resist disease. Experiments have been tried in producing rust-resisting asparagus. I was delivering a talk one time and a man asked me how he could grow asparagus. After I had finished my talk, the man came up to me and asked me how he could grow it



without rusting. I told him, "I am afraid you cannot grow it." "Well," he said, "you do not give me very much encouragement. I have a plantation of asparagus and it seems to be all dying out because of the rust." Some progress has been made by the use of spraying, but I am told that up at Concord, Mass., experiments have been made which show that the best prospects for overcoming that trouble have been found along the line of selecting the plants which resist it. Furthermore, we can select plants for productiveness. Select the potato plant for the large number of tubers which mature, and increase your crop in that way. Select the cucumber which has the largest number of female buds for your stock seed. I went into our greenhouse a day or two ago, and I went to one hill, and on one of these plants I found twenty females, and on the other I found five. Now it would be best to select your seed from the plant which shows the largest prolificness. The vegetable grower should not only exercise much care, but he should be careful in the selection of the seed of the variety. I think we often plant seed with too much carelessness. Why? The Geneva, N. Y., Station studied the influence of the size of seed on crop production. They took the cabbage as one of the illustrations. They selected a large tract, and culled all the cabbage seeds from the largest plants, and then they selected the seed from small cabbages, and planted the seed of both and raised the plants, putting one right alongside of the other. In every instance they had the largest crop of cabbages from the larger seed. They had a larger crop of cabbages with the larger seed than from those plants raised from the small seed. I maintain that a small sized plant indicates weakness. If we plant those seed from year to year that increases the weakness.

Now I will speak very briefly on the question of marketing our crops. It does not all depend upon the growing of the crop by the fruit grower. If, however, the product is not put upon the market in the right shape sales will be slow. Attractiveness of a product may be obtained by so simple a



matter as proper cleanliness, and by proper preparation of the product before it is placed upon the market. Who would think of offering for sale radishes all smeared with mud. You would not be likely to succeed in selling a product put upon the market in that condition alongside of a man who had them cleaned up. A man who put a box of strawberries on the market so crushed that the juice is exuding from the box could not expect to derive a larger price than the man who was careful to have his berries in a good clean, fresh condition. Not only is proper preparation in this line very essential to success, but proper grading of the fruit, as you know, is also highly necessary. The proper packing and grading of the fruit has a great deal to do with the advantageous sale of the product. I remember, as a boy, picking strawberries for a man, and noticed then the difference in the methods adopted by the growers. One man graded every box of berries that went from his plantation. Another was careless. The man who put his on in good condition never had a glut in the market for his fruit. What would you think if you went down to a grocery store and found the groceryman had graded his box of oranges down to the size of these apples? In other words, that he had put small ones in with the large? Why, your first thought would be, "I guess that fellow has been putting two or three boxes together so as to get a good price for them all." That is one of the things we have got to be careful about. We may be accused of doing the same thing. The consumer has just the same right as we have to accuse the dealer. We should be careful and do all that we can to put our products upon the market in a way that will give this added attractiveness. It helps the sale and helps us. Now it may be with small fruit that it is just as advantageous not to put each size in a package by itself. Last fall when I was up at the New England Fruit Show, I had the great good fortune to see the packing of apples there in barrels,—many of us who were there probably saw the same packing. They were all No. 1

apples. There were several barrels of No. 1 apples, but they were packed in this way. Here was Grade A, No. 1 apple, and Grade B. All of them fair-sized perfect apples. Now if all our customers were just alike, and they did not care anything about the size of the apple, perhaps this would not pay, but in other cases there are certain particular customers who want their apples of a certain size, in those cases it pays to put them up in a way to suit the trade. Perhaps, in the case of a restaurant or hotel, if we can get one hundred and fifty apples in a bushel, it may satisfy the customer.

There is a man in Michigan named Charles Cook, who grows strawberries. He is very careful indeed how he puts his crop on the market. He grades every box that he sends out. For his good berries he receives twenty-one cents a quart. He is never troubled about any glut in the market. Of course, he gets that price for his finest fruit. Well, somebody says what will we do with the low grade fruit? A great many people say they cannot afford to throw away this low grade fruit. I contend this. There is no reason why the low grade fruit should come in competition with the other. We can sell the low grade fruit to other people. It does not come in competition with the high grade fruit, for the people who buy that class of fruit never would buy anything but the high grade fruit. If the market will not take it in any other way so as to dispose of it, we can dispose of the low grade in other ways. We can evaporate them. We can make them into fruit juices. Since we have the present pure food law it has opened up work along that line. I think the farmers could study these things to their advantage more than they have. I believe it would pay every community of fruit growers to establish among themselves an evaporator or canning factory for using all these sulphur products,—not only for the use of these low grade products, but for the use of products when perhaps the day may come when there is a little glut in the market, and so use up this surplus fruit in

a way to turn a profit without throwing it on the market for what you can get.

Now there is an opportunity also in this fruit business for the wife to play an important part. Most fruit growers who are wise take their wives into partnership when they begin the business. I believe it ought to pay to set up sort of a laboratory for the study of different methods of preserving fruit, and the preparation of different sorts of dishes made out of fruit. It might be well to take this into our county fairs, and have a demonstration like the food products men do. See how they push their products. They keep putting new things before the public, bringing out new methods of using their products so as to popularize them, and increase the market.

Now the packing has as much, in my opinion, to do with the selling of fruit as the fruit itself. The method in which it is put up is a very important item. I think we can increase the sales of our fruit very much by putting it up in packages that are attractive. I believe that it is possible, if we adopt proper packages, to get lower rates for the transportation of fruit. You all know when you go to the transportation company to get a crop transported that if it is a bulky article they will charge you for the transportation of that article according to its bulkiness. The transportation lines, as you know, have different ratings for different classes of freight. If we put our products up in such a form that they will occupy just the least possible space for the amount of bulk, we can get a cheaper rate. The more space they occupy the greater the freight rate which we must pay. If we can put them into such packages that will occupy the least space, and still leave enough for the circulation of air, the better it is for our pockets. In that way we will secure also the better handling of our fruit. I believe in having baskets for a great deal of our fruit, with handles on. Here are two or three forms which I have brought for the purpose of illustrating what I mean. I do not want to make anyone angry by adver-

tising anybody's baskets. We used to use a round peach basket but we do not use that style for peaches to-day. A peach grower wants a basket that he can set onto his wagon, and stack it up eight feet high, if it is necessary. You cannot do that with the round basket. A basket of this form enables you to do that. These baskets are made in different sizes, holding from one-fifth of a bushel up to a half. A basket of that type can be stacked right up on the wagon six or eight feet high. In this way you save space.

Now there is another point about baskets. This basket that I hold in my right hand is not as liable to be crushed by pressure as this other one. You will notice that this basket has its parts arranged vertically. You will find that that basket will stand ten times the amount of pressure that this basket will where the sides run right around. I hope you will adopt one in which the wood fibres are vertical to the bottom of the basket. In that way you will avoid the crushing of the basket. I have seen musk-melons put up in this class of basket and stacked up eight baskets high. In packing red raspberries we should be very careful. You do not want to put red raspberries in deep baskets. They settle down more readily in such baskets. So I think if we will take a little pains and pack them in baskets such as these, they will make a better appearance. Oftentimes it makes quite a difference how the fruit is packed as to what it sells for. This basket carrier is used very often for peaches, tomatoes and things of that kind. I have seen Elberta peaches that sold ordinarily at seventy-five cents a bushel sell for one dollar a carrier when packed in a carrier like this.

Prof. Stevens excellent address was attentively listened to and thoroughly appreciated, especially his advice with regard to the putting up of fruits for market. The samples of fruit packages which he exhibited, added much to the value of the talk.

## Resolutions.

MR. GOLD: Mr. President, I have a resolution which I would like to introduce.

*Voted:* That this Society direct its Secretary to issue the annual report at once, and have it ready for distribution not later than April 1st, 1910. In consideration of the prompt delivery of the report, and the extra expense thereby caused, the salary of the Secretary shall be increased to three hundred dollars per annum."

Resolution seconded.

THE PRESIDENT: You have heard the resolution. Are there any remarks on it?

MR. GOLD: It is pretty generally recognized that the report is of comparatively little value unless it is issued early. It ought to come out and be in the hands of the members of the association before the spring season opens. The Secretary is very busy with his work at this season of the year, he has a good deal to do in connection with the institutes, and there is a good deal to do in getting ready to issue a report like this. In getting it out he is obliged to employ some help to get the work through. In consideration of this special work which he has to do, I think that this resolution ought to pass, and I trust that it will meet with the approval of the Society.

THE PRESIDENT: If there are no further remarks I will put this resolution to a vote. All in favor signify by saying "Aye." Contrary minds, "No." It is a unanimous vote and is carried.

SECRETARY MILES: Mr. President, I would like to say in connection with this, that I fully endorse what the resolution contains, and I will try to live up to it. It will be very valuable to the Secretary in getting after the stenographer so as to get the report out on time. Some of the delay in

years past, not all, has been along that line. It will be of great help to me in getting out the report promptly.

MR. HALE: Our worthy Secretary says he will try to have it out. We have got to have it. I believe we ought to put a string on that extra fifty dollars if he don't get it out by the first of April.

MR. CURTIS: Mr. President, I have a resolution which I would like to offer.

*Whereas*, the State of Connecticut and many of its individual citizens have been and are now being put to large expense in endeavoring to control the serious insect pests imported from foreign countries; and

*Whereas*, the importation of such pests is still continuing, owing to the lack of any provision whatever for the inspection of foreign nursery stock; therefore be it

*Resolved*, That the members of the Connecticut Pomological Society, in convention assembled, do most earnestly endorse the bills now before Congress providing for the federal inspection of imported nursery stock, and urge their prompt enactment; and that the Secretary be instructed to send copies of this resolution to each of our State Representatives in Congress, and to the Chairmen of the Agricultural Committees of both Houses."

Resolution seconded.

THE PRESIDENT: I am very glad that this resolution has been offered at this time. I think it is something which should be looked after. I am very glad that the resolution is offered. Now it is open for remarks. If there are no remarks, I will put the question. All in favor say "Aye." Contrary minds, "No." It is a vote.

MR. HALE: Mr. President, while you were calling for the reports of the committees yesterday, and there was a distribution of favors going on here, the report of the Chairman



of the Legislative Committee was not called for. I was not called upon, and I feel a little hurt.

MR. GOLD: I beg your pardon. That was an oversight.

MR. HALE: I will forgive you, if you will let me make that report now.

MR. HALE: The Committee on Legislation would make this as its report. There is no session of the General Assembly this year, and nothing therefore to bring to your attention in the state, but there is before Congress a revision of the old Porter bill for the grading and packing of apples. It has taken on a new form, and is now known as the "Lafean Bill," No. 16919. It provides for having apples graded to certain grades. If they are  $2\frac{3}{4}$  inches in diameter and practically free from insect and fungous pests, they may be graded, according to the United States standard, A. Those that are  $2\frac{1}{4}$  inches or more in diameter, and practically free from blemishes may be graded the United States standard B. Other apples 2 inches or more in diameter, and practically free from all insect pests, to United States standard C. The bill also signifies what the standard number shall be. Also standardizes the boxes in which the fruit is to be packed and shipped. That bill is now before Congress, and is endorsed by a large number of apple growers, and is just as seriously opposed by some others. I believe that Connecticut is taking hold of the apple business, and the farmers of this state are going to make that one of the features of our agricultural operations, and I believe it would be a great help to us if there was a standard of this kind adopted. I would like to see this Society go on record as favoring the Lafean bill.

I would move the following resolution:

*Whereas*, the irregular and imperfect grading and packing of apples in past years has confused and disheartened the consumer to the ultimate injury of the producer and dealer.

*Therefore, be it Resolved by the Connecticut Pomological Society*, That we heartily endorse H. R. 16919 now before

Congress, and commonly known as the Lafean Apple Package and Grading Bill, and would urge upon our Senators and members of Congress their support for this bill as in the interest of both consumer and orchardists who are interested in the new apple culture that is just now developing upon the hills of Connecticut.

PRESIDENT ROGERS: You hear the report of the Chairman of the Legislative Committee, and what he has presented to you in regard to the passage of this bill before Congress. What is your pleasure? Those in favor of the acceptance of this report and the passage of Mr. Hale's motion say "Aye." Contrary minds, "No." It is a vote.

I wish at this time to call your attention once more to these little pamphlets which have been issued by the Publicity Committee. I want to have you carefully read those and circulate them among your friends at home.

I will now call on Mr. Wilfred Wheeler of Massachusetts, to make a few remarks in connection with this publicity work.

MR. WHEELER: Mr. President and Friends of the Pomological Society: I do not know as I care to take up very much time, but there was just a word that I wanted to leave with you about this publicity matter. The work of the Society, I think, should be directed along two lines,—not only to educate the grower to *grow* better fruit, but we should educate the public to *consume* better fruit, and our institute work should be largely along those lines at present. We have commenced to organize a tremendous interest in fruit culture, and it seems to me the time has come when we ought to take up seriously the question of how we are going to educate the public to take that fruit which is going to come into the market, so that we may have an increasing market all the time. One of the points that I want to leave with you, the point of value, is the value of fruit as an article

of food. I think we ought to impress that upon the public more than it has been. I do not think that the average American takes as much account of his food as he should do. They had to get the pure food law passed in order to protect us from injurious articles, but the people do not take much thought of the value of certain articles as food. Fruit as an article of food is very little known. I doubt if the chemistry of the apple could be given by one person in ten thousand, and yet the acids contained in the apple are of tremendous importance as an article of diet. The chemical contents of fruit, as well as of all other foods that are eaten, is very essential, and I think if we can call the attention of the public to the great value of fruit as food that a good deal can be done to increase the consumption of fruit. It is on that line that I want to suggest that a campaign of publicity be attempted, that is, increased publicity of the value of the apple and other fruits as food. I think if this Society could start in the cities where fruit is consumed, and work along these lines, especially upon the value of the apple and other fruits as food, we would have a tremendous demand for it, in fact, a greater demand than we could meet. This is simply a suggestion that I would like to leave with you, that the Publicity Committee work along this line. The only point against it that I can see is that it may be hard to get people to demonstrate that side of the question. I do not believe that we have a great many people who are able to go out and tell other people about the chemistry of the apple or of other fruits, so as to give them an idea of the value of fruits as food. We may be handicapped along that line until we have people who can carry on that work. I think that can be overcome, however. I think by correspondence we may be able to find the proper parties to tell what the value of fruit as food is to the people. So I think if your committee could take that up it would do very much to increase the demand for good fruit.

PRESIDENT ROGERS: We are now to have an opportunity to learn something in regard to the packing and handling of apples and other fruit for the market by co-operative effort. Mr. Robert Thompson of St. Catharines, Canada, will talk to you for a few moments on "Successful Co-operation in the Handling of Fruit Crops."

## Successful Co-operation in the Handling of Fruit Crops.

By ROBT. THOMPSON, St. Catharines, Ont., Canada.  
Mgr. St. Catharines Cold Storage Co.

Mr. President, Ladies and Gentlemen, and Fellow Growers: I am glad to be with you this afternoon, and glad to bring you the greetings from your fellow growers in your sister nation to the north of you. While we are to the north of you, the country is not so much colder as you may think, and we are able to do a great deal in the fruit line. I am also glad to be here, Mr. President, to-day, because it gives me an opportunity to repay a little of the debt which we in Canada feel that we owe to you. We like to pay our debts. We have had some of your men from the States up there to talk to us. We have been taking a good deal of interest during the last seven or eight years, and some of our growers have been wrought up to something of the enthusiasm that your man, Mr. Hale, has been trying to enthuse into you. I think we have gotten a little of his enthusiasm, and we are indebted to him. You know "a prophet is not without honor save in his own country." Mr. Hale goes about trying to put some of that ginger that he has been talking about down here into American fruit growers. It certainly helps. It has put a great deal of force into this movement to grow better fruit. I am sorroy to say, though, that I thought that you people were more progressive. We looked upon you as being more up-to-date in some respects than you are, and I

am afraid that you have got to take some steps to effect a change. I do not believe that eastern fruit growers have thoroughly realized their opportunities, because they have been afraid of western competition, but I can say that you have no reason to fear. If you could hear the men from the western coast talk you would not fear. The thing to do is to go ahead and grow good fruit. There is no danger of any failure. There is no chance of failure. You should go right ahead. There is no danger of over-production in fruit. The danger comes from under distribution.

We hear a great deal of talk nowadays about the high cost of living, and some growers say that is going to reduce the demand. The growers are afraid that possibly we are going to be more handicapped in the future than we have in the past by having fewer markets. I do not believe there is anything to it. There might have been something to that with a smaller population. There is going to be a big demand for good fruit. We can sell all we can raise, and we want to make some money out of our business because the price of our products on the whole has been going lower. We have been producing more, but the population has been increasing faster than we have increased our production. There is no danger at all, in my opinion, but what we are going to have a good market for all our fruit.

I notice a question on your program here, "What will become of our peaches in the future, because there are going to be too many in the State of Connecticut?" I can answer that question. All you have got to do is simply get them out of the state, get them away from your own nearby markets into other markets where there is a demand for them, and that is what I am going to talk about this afternoon, how we have done that thing in Canada. I am going to talk more about what we have accomplished in my district. Where we were in mixed farming, we have practically dropped out products of that nature. Confined our operations more particularly to fruit and vegetables. We are growing the smaller

fruits and vegetables, and those are bringing us more money to the acre than our land would if planted with other mixed crops. By doing that, it brings it so that we are making more out of a profit at one cent a pound than we made twelve or fifteen years ago at five. We will make more at a cent or two cents a pound by lessening the cost of production and by lessening the cost of distribution in every way, and it is up now to the consumer at the other end to lessen the cost of distribution at home. I will give you a few instances where we have lessened this cost of production. In St. Catherine's,—that was one of the first districts to adopt the principle of co-operation. About twelve years ago a large proportion of our peaches were not being picked, the local population would not take the crop. The growers talked the matter over. We could not see why we should be working for the expressman and the basket man, and not get a fair share of the business ourselves. When we shipped our peaches to market we used to get a price that would not pay the cost of expressage, baskets and the commission. When we got through paying those expenses there would be nothing left. The growers got together and determined to see what they could do to change that condition. That was the commencement. From that time we have gone on and grown until to-day we have almost all of the growers. We have a few others that have come in that are not in the association that get the benefit of the carload rates. That has been one of the big points that we have got,—shipping our fruit by bulking it together at carload rates. Just to give you one instance: Our through rate on a certain number of cars was twenty-eight thousand and a few odd dollars. I think, \$28,300. In round numbers, it was \$28,000. Those cars were sent out in carload lots. They were all iced, so that no icing was necessary by the transportation company. We put up our own ice, and iced the cars, so there would not be any further charge to deliver, so there would not be any charge



for icing to be added. Before that we were charged about twenty-five dollars. So we made a saving on that.

Another thing, we pack our own cars, so that we know that they are packed as they ought to be. No railroad man and no expressman will take the care that ought to be taken to pack fruit right in the car. If one of our men does the packing, we can get more in the car, and pack it better. We do not want to have the baskets handled roughly, and that is the kind of treatment they get if the railroad man and expressman do the work.

Now we telegraph that we have got those cars loaded, and we get the market report, and we get a telegraphic answer whether they want those cars. We telegraph the contents when they are sold. For that we were also charged before an extra amount of some two thousand dollars. It was less on that \$28,000, but making \$33,000 if those cars had gone out in broken lots, shipped by the individual grower at less than carload rates. If those cars had gone out in broken lots shipped by the individual growers, at less than carload rates for the freight, they would have cost us in the neighborhood of from fifty to fifty-one thousand dollars; so you see there was a saving there of some seventeen thousand dollars. If they had gone by the express company, and been put in the market in only a little shorter time, and in not nearly as good shape, they would have cost us a little over eighty thousand dollars. So you can see that as between the express company and shipping by freight there was a saving of forty-two thousand dollars. The charges that we had to pay amounted to about only thirty-three thousand dollars. So by getting the growers together and forming that co-operative association we saved all that money to be divided up among the shippers. But that is only one item. Another saving came in the question of the purchase of supplies. Of course you want to know, will it be possible to handle our supplies co-operatively? I can answer that. It all depends on yourselves. If you have got middlemen to throw their in-

terest in with the growers, to give them their influence, they can help you. As one of the speakers said here, he wanted character in business. That is what we want, one of those men who will take pains to go in and help the growers. That is the kind of man that will be remembered for years afterward, whereas they would be forgotten if they went on in the present way. If you cannot get that kind of men, then you have got to do these things yourself. Now we have got a tariff wall over in Canada the same as you have. We should be able to make our baskets as cheaply as you can. Our basket men got the baskets up and up in price, just as high as they could, they kept raising the price until we just made up our minds that we would not stand it any longer. We immediately placed an order for several hundred thousand of the same size that we were formerly buying at home. Immediately the price of baskets dropped. The manufacturers realize that they cannot charge the association what they used to charge the individual growers. We can bring them in from outside. That resulted in a saving of thousands of dollars to our growers by keeping the cost of baskets down, not only to our members but to the whole public. We realize that we can do it. We send in our order early in the season for about what we are going to need, with the option on a further amount, depending on the crop as it shows up about the first of June. If we want more we have the option so that we can get them, not taking into account the carriers. As soon as the contract is made, why, the other makers practically fix their prices by that, so that we are helping all,—not only our own members but the public as well. Now then it is up to you people here to adopt some system of that kind. You can save money.

Now on the question of spraying. That is a vital question. I believe it is one of the best things, and it is one of the things which has got to be done if we are going to get a good crop of fruit nowadays. One of your speakers, a good man, was talking about renovating old apple orchards,

he was talking about spraying once in three years. It rather amused me to hear a man talk about spraying once in three years. We want to spray every year, because it pays us. We do not want to wait until we have got diseased trees. You ought to get Mr. Hale to give you a few figures about spraying. Our people believe that it is necessary and profitable to spray every year, but the point with us was we wanted to make it easy for every man to spray. So we took up the question of the cost of supplies to spray with. The association got prices from different places. We wrote around to the supply houses and got their prices, and by buying in quantities we got a good price. If one maker gives us twenty-five per cent off, we simply give the stuff to the grower at twenty off. Take the item of sulphur. One man was talking about the price of sulphur here yesterday. No. 1 sulphur. I believe somebody said it was about one and a half here. It costs us \$1.37 per hundred pounds. We give it to the growers at \$1.50 per hundred pounds. We keep it on hand. It costs you possibly in this country a little less. The tariff goes against us. It is costing you, I guess, about eight dollars a barrel. It will cost at least one dollar a barrel here more, and often a dollar and a half a barrel to distribute it. The association in any district can make a saving on that of at least a dollar a barrel, and by doing that you can decrease the cost of your spraying materials, and get a better grade of materials, I think, beside. You are enabled to get a better grade, because if you have among your members some men that have no knowledge or experience in buying, they will not buy to as good advantage as an experienced buyer can. By buying in large quantities through the association in that way you have a friend who is doing the best he can to save you money. Get a good man to do the buying and he will save you money. It is not always the man who talks the loudest that will make the best buyer. Some men who are the poorest are the ones who will talk the loudest. But you can find among you someone who has had experience,

and then the association can be guided by the advice of that man. Another advantage is that the dealers will not dare to give an inferior article of any kind to a large association. They would dare to do that to the individual grower.

Now I could go on and enumerate articles that we have to have, on some of which we make a saving very often of as high as fifty per cent, and running down from that to ten per cent. That is a large saving on the cost of supplies. That is one of the main advantages of co-operation, or of buying these materials through the association. If you have got the Grange, there should not be any trouble in working up the spirit of co-operation among the farmers. Then there will be no danger of over-doing the market, because every man will have a chance to produce a certain amount of the fruit. You do away with the spirit of one grower being afraid to let someone else know what he is making out of certain lines for fear they will go into that line.

If you go into the system of working it co-operatively, you will get higher prices for your fruit, because you can get your men to look after that line. Now you take strawberries: You will have a market for your berries because you will have the buyers coming in from outside, and after you have studied every market and transportation facilities which the association has, it enables you to put the fruit down where you can get the best price, and where you can do it the easiest, where they know they will get it easily, and get it quick. In our own case, we are shipping to the western market. We realized that our own market was getting filled up, as you say your eastern market is here sometimes. When we started that we thought we would be up against the western fruit growers, and might have a pretty sharp competition, and perhaps might have to sell below cost. We built up a market right under their noses. You people down here can very easily take the life out of their business, because you have got the markets right here at your doors. You keep right on shipping. You can grow just as good

fruit in the state of Connecticut, particularly apples, as they they do in Oregon or any of those states, and you can meet them in any of the markets. The cost of producing is less here than out there. Labor is less here, and material is cheaper. Transportation to market is cheaper, and you are closer to them than they are. So that you have got them beaten any way they want to take it. I speak strongly about this, but I know what I am talking about. I have been through that country. I spent some time out there studying their conditions. I did it because I wanted to inform myself as a grower. I am just a grower with the rest. This association that I represent is all made up of growers. You have got nothing to fear from that western competition if you get into the market the way you can do, as favorably located as you are down here. Now what did we do? We started out some six years ago and sent out three cars. We sort of felt our way at first, but the business has grown until this year we shipped one hundred and forty or one hundred and fifty of small mixed fruits to that western market from our own association. Other associations throughout the districts have also increased their shipments. Not quite as heavily as we did, but they all show a steady growth. All in the same line. We have not got the prices that we should in all cases, but we have, in a majority, got better prices than we would if the people had given their fruit to the local markets. We have sent that amount of fruit into that country where they cannot grow it, and as the result of it, we have raised the prices to our own growers at home. We have not increased it there. Now isn't that better than being obliged to dump your crop into a commission market and take what you can get?

Now there is another point about this association effort that it seems to me is a very important one. You can do more business and better business with the commission houses, because they know what they can depend upon. If you sell your fruit through a commission house that house

wants a regular supply of a known quality or grade of fruit. They do not want a lot of goods that will be shipped of poor quality one time and high another. They want to be assured that they are going to get a good quality right along. Now it is along that line that we have worked the thing out. We adopted their methods of packing. We sent out to the Coast and got them by the carload. We got their packages. We wanted boxes which would enable us to compete with those western chaps. We wanted the box to be identical. We did not want to give the buyers an opportunity to say, "Oh, that fruit comes from the east where the fruit is no good." I am satisfied that in a majority of cases, at first, before they knew what was going on, a good many of the people bought that fruit as western fruit. Now some of them do not want to buy western fruit when they can get eastern fruit. You need not fear western competition if you adopt good methods. Those methods are not going to be expensive. We have tried it. A few years ago before we were forced to adopt the co-operative method of handling our fruit, a good many of our growers did not spray in time. We would lose a certain amount of the foliage, and the trees would be weakened. The next year we would not have as good fruit because the trees were weakened. All that sort of thing has been improved, and it has made a great difference with the growers themselves, because they have learned that they can depend on their fruit crop as a certainty, in fact, we have almost come to look upon it as a little more certain than a crop of corn or wheat. That means that we are able to handle our peaches and other fruits. We grow them cheaper, and our people are planting out more and more.

Sometimes you hear it said, where are you going to get labor? You say that labor is hard to get. It is sometimes, unless you get hold of it in the right way. We find no difficulty there. We are not troubled with a scarcity of labor, unless at some particular time when we have very dry weather, when our peach crop comes on a little quickly. In



ordinary times we have no trouble. The men are flocking to us in picking time to be employed. They like the work. Men will come to us and work for less than they will in some other line. As the years go by your difficulties will pass by, and you will have more encouragement. I believe this association effort is a great thing for the fruit grower.

Now I have given you an outline of what we are doing. Perhaps it would be better for me to stop and ask if there are any questions along this line of co-operation, or anything about packing that I can answer.

#### DISCUSSION.

Q. What geographical area does your association cover?

MR. THOMPSON: We have members located as far as twenty miles away from us. Some of those men are lively members too. Some of them send in occasional shipments for this western market, and all of them are shipping more or less through the association. The main idea has been to get all of our people working along in this line, because it has meant a greater saving and bigger profits for them all. We have these associations throughout the provinces. In our province, there are only five or six, and we have formed what we call the Central Association. That is composed of one representative from each of the associations, and has formed an executive body. That association is going further than we have done. They are buying supplies for all of our associations throughout the province or state. We have been doing more of it than in some of the other sections of the country. We are purchasing supplies now for practically the whole of the province. We give others the benefit of that work. All of that business is handled and given to any association outside of the central one, at an advance of three per cent. In no case more than that. That is, three per cent above the original wholesale cost. In getting a large quantity you can handle it for that amount, and the three per cent on

that gives us a sufficient income to pay the cost of handling the work. That brings sulphur pretty low. It is the same thing with lime-sulphur. We get ten and five off that amount. That brings it much lower than the regular price, very much lower than the individual grower can get it for.

Q. How much do you charge your members—so much a package on their fruit?

MR. THOMPSON: We are handling lines of fruit in baskets like these. The great bulk is handled subject to the inspection of the Association. When those are brought in they are given to the Association to sell. Of course, there is a two per cent charge for that to everyone. That is, to members and outsiders. At the end of the season that two per cent is rebated to members, so that the outsider pays two per cent, and that covers all the expense of handling. Take pears and peaches, when those are brought in to be packed by our Association, by our girls and others, that we employ, we charge five cents for packing without wrapping pears, and we have been charging fifteen cents for pears and the wrapping. It should be about twelve and a half. Peaches wrapped for eight cents a box. That covers the paper and covers all the trouble in connection with it.

Q. Have you any idea how much you save? How were the expenses before you came into it?

MR. THOMPSON: I can answer that by taking an illustration. The charge for bone meal was about thirty-three dollars a ton. To-day we are getting it for from twenty-seven to twenty-eight dollars, beside getting a standard guarantee so that we know exactly what we are getting. Of course, the price of some of these other commodities came down also. On others there is not so much change. On muriate and nitrate the price has varied from year to year, but we do save. We saved five dollars a ton over the price that the agents were selling for, even where they were bringing it in in carload lots and distributing it out to the far-

mers. We saved five dollars a ton. Another thing is in regard to the question of mixed fertilizer. We are buying standard goods; they know exactly what is required. Like the gentleman who was speaking about the balanced ration,—we buy according to what our trees require, and according to the needs of the soil. We do save on the purchase of fertilizers, and on all the material that goes into orchard work.

There is another line of business that we have gone into that has been very beneficial, and out of which we have made more than we have in some other lines. Before we started handling our fruit in this way, there was no market for the small grower, that is, a man that had only an occasional small lot to ship. Now take it when we commenced to ship our fruit up into the Northwest. There was a market out in the Northwest, but for every grower that could ship a car-load there were a great many that had only a small amount. Now we are sending out our mixed cars. The fruit comes in, no matter whether there is one box or ten boxes, they bring in what they have got, and that is all graded and goes in with the car. We have sent some as far out as the Rocky Mountains. We have sent a few cars out, and are shipping regularly to customers in the West and Northwest. There is a market there, and they are ready for that kind of fruit. They are getting an extra good price, and it is an advantage to the growers up there with us to handle the fruit in that way, because otherwise much of the fruit would waste. We have saved on that. We have saved in another way.

When a new man comes in, he wants to know what variety to plant. He comes around and says, "What will I plant this year; what does the market want, what apples, what grapes, what plums, or pears will be the best for the western market?" Well, we tell him at once the variety that takes best in that market. There are certain varieties that take better, and certain varieties that carry better. It is surprising that some of the common varieties that are not thought very much of at home can be sent to some place

where there is a demand for them and bring a good price. For instance, take crabapples. Very often they are not worth picking, so far as the market at home is concerned, but out there they sell better than any other apple. Then again in pears and other fruits, we know what the market wants, and we advise them to plant them. Then we can take that fruit for them, ship it and market it. The market may be unlimited in some cases. Most of those people when they start only turn in small quantities, but if they raise what the association can sell we can take their fruit and do better by it than they can because we are catering to certain markets all the time, keep in touch with those markets, and know what they want. Take certain points in our province and in some of the eastern provinces. If there is a demand, why, we run a little in there. Occasionally, we will drop a car or two over here. We are not able to do much of that.

Then there is another class that the association work benefits. We have men working in the shops in the cities, in our cities, the same as you have here in Hartford, I presume. They have accumulated two or three hundred dollars. Perhaps they have got along to a time of life, or their health has given out, and they find that they have got to stop working in the shop, and so they get out in the country and buy five or ten acres for a home. They simply bring their fruit to us, give it to the association to sell, and the association places it on the market without trouble to that man. In that way, it is a benefit to him. He gets a better price. He is able to look after his fruit, he is able to work occasionally at his trade, which enables him to pay for his place. Then again, we get some of the city people who, because of ill health or because they have lost their position, or something of that kind, come out into the country and raise a little fruit. Of course, they drop in and they get advice from us as to how to start, we take the fruit and do as well as we can by them. So that it works out very well. It has been the salvation of the fruit growers in the district.

Q. Do you hire the commission men in the cities to handle your fruit, or do you have your own men to make the sales?

MR. THOMPSON: In some cases, we ship it through the commission houses. In one case, we have our own agent. In some cases, the commission men will let us have cases and boxes, and, if necessary, will allow us to send a man there and pay him. Sometimes they will offer to pay a part, and we would pay the difference ourselves.

With Mr. Thompson's very practical and suggestive address the program of the meeting was brought to a close.

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PRESIDENT ROGERS: We usually at this time announce our Standing Committees for the year, but we are not going to do that to-day for I have not had sufficient time to make up the list. You will be able to get the names of the members on the various Standing Committees in an early issue of the *Connecticut Farmer*.

Has anybody anything further to bring before this meeting at this time? If not, a motion to adjourn is in order.

A motion to adjourn was then made, seconded and passed, and at 4:40 p. m. the annual meeting of 1910 was declared closed.

It was a great meeting in every respect. With one exception all the varied features on the program were carried out to the letter and with complete success.

It is believed that everyone who attended the convention returned home thoroughly appreciating the pleasure and profit they had gained. The far-reaching results of such an enthusiastic gathering can hardly be estimated and its influence upon the future of Connecticut fruit growing cannot help but be of immense value.

# Report of the Special Committee on Fruit Exhibit, with List of Awards.

## CLASS I.

### LARGEST AND BEST DISPLAY OF FRUIT.

No entries.

## CLASS II.

### BEST COLLECTION FIVE VARIETIES MARKET APPLES.

First Premium to A. B. Howard & Son, Belchertown, Mass...	\$2.00
Second Premium to H. E. Savage's Sons, Berlin.....	1.00

## CLASS III.

### BEST COLLECTION FIVE VARIETIES DESSERT APPLES.

First Premium to A. B. Howard & Son .....	2.00
Second Premium to Arthur J. Clark, Durham .....	1.00

## CLASS IV.

### BEST SINGLE PLATES APPLES.

#### *King.*

First Premium to George W. Staples, Hartford.....	.50
Second Premium to A. B. Howard & Son .....	.25

#### *Ben Davis.*

First Premium to A. B. Howard & Son .....	.50
Second Premium to H. E. Savage's Sons .....	.25

#### *Rhode Island Greening.*

First Premium to A. B. Howard & Son .....	.50
Second Premium to Z. H. Candee, Sheffield, Mass.....	.25

#### *Roxbury Russett.*

First Premium to H. E. Savage's Sons .....	.50
Second Premium to S. G. Cook, Branford.....	.25

#### *Hubbardston.*

First Premium to A. B. Howard & Son .....	.50
Second Premium to H. E. Savage's Sons .....	.25

#### *Westfield.*

First Premium to A. B. Howard & Son .....	.50
Second Premium to H. E. Savage's Sons .....	.25

#### *Wagener.*

First Premium to H. E. Savage's Sons .....	.50
Second Premium to Z. H. Candee .....	.25



*Peck's Pleasant.*

First Premium to Earl C. Roberts, Middletown.....	.50
Second Premium to H. E. Savage's Sons .....	.25

*Fallawater.*

First Premium to Charles M. Perry, Southbury.....	.50
Second Premium to Earl C. Roberts.....	.25

*Newtown Pippin.*

First Premium to E. E. Brown, Pomfret.....	.50
Second Premium to C. W. Carpenter, Monson, Mass.....	.25

*Gilliflower.*

Second Premium to W. A. Stocking & Sons .....	.25
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*Northern Spy.*

First Premium to George W. Staples.....	.50
Second premium to E. E. Brown.....	.25

*Pound Sweet.*

First Premium to F. B. Bailey Durham.....	.50
Second Premium to Arthur J. Clark.....	.25

*Sutton.*

First Premium to Ethelbert Bliss, Wilbraham, Mass.....	.50
Second Premium to Arthur J. Clark.....	.25

*Mann.*

Second Premium to W. A. Stocking & Son, Weatogue.....	.25
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*Stark.*

First Premium to Dennis Fenn, Milford.....	.50
Second Premium to G. F. Platt Milford.....	.25

*Milding.*

First Premium to George W. Staples.....	.50
Second Premium to F. B. Miller, Bloomfield.....	.25

*Rome Beauty.*

First Premium to F. B. Miller.....	.50
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*Baldwin.*

First Premium to George W. Staples.....	.50
Second Premium to Dennis Fenn.....	.25

*Cranberry Pippin.*

First Premium to Z. H. Candee.....	.50
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*Talman Sweet.*

First Premium to George W. Staples.....	.50
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<i>Fameuse.</i>	
First Premium to George W. Staples.....	.50
<i>Fall Pippin.</i>	
First Premium to Z. H. Candee.....	.50
<i>Bellflower.</i>	
First Premium to George W. Staples.....	.50
<i>Wolf River.</i>	
First Premium to George W. Staples.....	.50
<i>McIntosh.</i>	
First Premium to George W. Staples.....	.50
<i>Rolfe.</i>	
First Premium to George W. Staples.....	.50
<i>Snow.</i>	
First Premium to George W. Staples.....	.50
<i>Delicious.</i>	
First Premium to A. B. Howard & Sons.....	.50
<i>Bay State.</i>	
First Premium to A. B. Howard & Sons.....	.50
<i>Sweet Russett.</i>	
First Premium to A. B. Howard & Sons.....	.50
<i>Gravenstein.</i>	
First Premium to A. B. Howard & Sons.....	.50
<i>Walter Pease.</i>	
First Premium to A. B. Howard & Sons.....	.50
<i>Red Canada.</i>	
First Premium to A. B. Howard & Sons.....	.50
<i>Pennock.</i>	
First Premium to A. B. Howard & Sons.....	.50
<i>Haas.</i>	
First Premium to W. A. Stocking & Sons.....	.50

## CLASS V.

## BEST SINGLE PLATES PEARS.

<i>Lawrence.</i>	
First Premium to W. A. Stocking & Sons.....	.50
<i>Anjou.</i>	
First Premium to W. A. Stocking & Sons.....	.50

## CLASS VI.

BEST PACKED AND MOST ATTRACTIVE PACKAGE MARKET APPLES.

*Box.*

First Premium to George W. Staples..... 2.00

*Basket.*

First Premium to W. A. Stocking &amp; Sons..... 2.00

## CLASS VII.

BEST PACKED BARREL MARKET APPLES.

First Premium to W. A. Stocking &amp; Sons..... 5.00

Second Premium to Geo. W. Staples..... 2.00

## CLASS VIII.

BEST BOX CHOICE APPLES.

First Premium to W. A. Stocking &amp; Sons..... 2.00

## Report of Special Committee on Implement Exhibit.

The following firms were represented in the display of Horticultural implements, supplies, spraying outfits, fruit packages, nursery stock, etc., etc.

### *Orchard and Farm Tools:*

Cutaway Harrow Co., Higganum, Conn.  
The Frank S. Platt Co., New Haven, Conn.  
Deering Plow Co.  
F. E. Boardman, Agent, Middletown, Conn.  
The New Idea Manure Spreader.  
E. L. Austin, Hartford, Fearless Manure Spreader.

### *Insecticides and Fungicides, and Spraying Supplies:*

Grasselli Chemical Co., New York City.  
The Sherwin-Williams Co., Newark, N. J.  
The James A. Blanchard Co., New York City.  
Bowker Insecticide Co., Boston, Mass.  
Vreeland Chemical Co., New York City.  
B. G. Pratt Co., "Scalecide and Sulfoicide."  
Hemingway's London Purple Co., New York City.

### *Spraying Outfits and Supplies:*

The Frank S. Platt Co., New Haven.  
Harvey Jewell, Agent, Cromwell, Conn.  
Cadwell & Jones, Hartford, Conn.  
H. L. Frost & Co., Arlington, Mass.  
The Smith & Thayer Co., Boston, Mass.  
S. B. Church, Seymour Conn., and Boston, Mass.  
E. V. Titus, Agent, Glen Cove, L. I.

### *Fruit Packages, Baskets, etc.:*

Chas. I. Allen, Terryville, Conn.  
H. R. Lindabery & Son., Frenchtown, New Jersey.

Coles & Co., New York City.  
D. S. Walton & Co., New York City.

*Nursery Stock:*

Barnes Bros'. Nursery Co., Yalesville, Conn.  
Harrison's Nurseries, Berlin, Md.

*Miscellaneous Exhibits:*

The Connecticut Farmer.  
Hoard's Dairyman.  
Paul M. Hubbard, Bristol, Conn.  
The Dennison Mfg. Co., Hartford, Conn.  
E. W. Auckland, Hartford.

The number of Trade Exhibits was much larger than at any previous meeting, nearly filling the lower hall. Demonstrations were given by the salesmen in charge thus making the exhibit of educational value as well as a matter of advertising. These trade displays are becoming an important feature of all horticultural meetings and should receive the attention of fruit growers and farmers who wish to be up to date in their business.

The interested co-operation of the manufacturers and dealers is commendable and the committee desires to express their appreciation of the same.

### Packing Demonstration.

In an adjoining room, demonstrations in the most approved methods of packing apples for market were given each day by Mr. Robert Thompson and assistants of St. Catherines, Ont., Canada. This feature proved of much benefit to all the growers present. We are of the opinion that such practical features should be continued at future annual meetings.

E. ROGERS,  
A. T. HENRY,  
M. L. COLEMAN,  
*Committee.*





THE CONNECTICUT STATE EXHIBIT  
At the New England Fruit Show, Boston, October 1909.





## PART TWO

### *A Brief Record of Field Meetings, Institutes, Exhibitions, Etc., Held in 1909.*

#### Summer Field Meetings, 1909.

Connecticut agricultural organizations have always been noted for holding enthusiastic and successful field meetings, visiting for this purpose many of the most up-to-date farms in the state.

Again in 1909 the Pomological Society early planned for its usual series of outdoor meetings in response to the popular demand for these gatherings, which so well combine instruction and pleasant recreation.

As has been mentioned in the report of the Secretary, three field meetings were arranged for, the first being a "Peach Meeting," which was necessitated on account of the large peach crop in the state, and the need of making business arrangements for transporting and marketing the crop to the best advantage.

Therefore this first field day of the season was held August 6th, at Durham, and, as the following program will show, took the form of a

**Peach Growers' Field Day.**

THE CONNECTICUT POMOLOGICAL SOCIETY

Has Arranged to Hold

A BIG FIELD MEETING

at the

**Barnes Bros.' Durham Peach Orchards****Friday, August 6, 1909.**

Through the kindness of Barnes Bros., members of the Society and others interested in peach growing will visit their extensive new orchards in Durham, which comprise 150 acres, all in splendid condition. Some 15,000 trees are bearing a fine crop of fruit this season. An opportunity to see one of the finest orchards in the state, and for Connecticut peach growers this will be a very important meeting.

Plans will be discussed for handling the coming peach crop. Representatives from the freight department of the N. Y., N. H. & H. R. R. Co., also leading commission men and fruit buyers, will be present to meet and confer with the growers.

**Every peach grower in the state is expected to be on hand and prepared to give an estimate of his crop and make known his shipping requirements.**

Don't neglect to bring or send in your crop estimates! The railroad and the markets want accurate information about Connecticut fruit!

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Looking over and studying the orchards—lunch—speaking, and discussion of peach crop business, will be the program of the day.

**An Important, Interesting and Profitable Meeting.**

**Don't miss it if you are interested in Peaches!**

The meeting proved an important and successful one and the attendance was very good, considering the busy season at which it was held.

The Barnes Bros. Nursery Co., of Yalesville, has a peach orchard of 150 acres situated in Durham and it was here that the field meeting was held. The day was ideal for an occasion of this nature, although the threatening clouds of the early morning doubtless prompted a number of visitors to

remain at home. More than 100 fruit growers were present, among whom were the most prominent peach orchardists in Connecticut. It was more especially a gathering of the peach men, as the secretary of the society had previously announced that representatives of the railroad would be present to confer with growers relative to the movement of the crop to market.

The visitors were met at Middlefield and Middlefield Center stations on the steam and trolley lines by carriages of Mr. Charles E. Lyman of Middlefield. A drive of three miles conveyed the guests to the place where the meeting was held. The orchard in which the meet was held is located on the main road from Durham to Middletown, about a mile north of Durham Center. In the middle of this orchard of 150 acres is a small piece of meadow, perhaps three acres in extent, and studded with large white oak trees, offering an ideal situation for an outdoor field meeting. The guests assembled at this point, and here lunch was served and the informal addresses were made.

A report of this field meeting would be incomplete unless special mention was made of the peach orchard itself. This 150 acre orchard of the Barnes Bros. is really an exceptional orchard in a great many respects. In a short address Mr. Lyman mentioned the fact that four years ago last February the land upon which the orchard stands was an ordinary piece of very rough hillside pasture, partially overgrown with brush and an enormous number of weeds. The land was cleared and plowed and the trees set four years ago. Last year the orchard yielded a small crop of fruit. This year the four-year-old trees are in full bearing for a young orchard, and the owners estimate that the crop will exceed 25,000 baskets. Several prominent growers who were present estimated that the crop would far exceed the estimate of the owners. In fact, Mr. Lyman thought that some trees would return as high as seven baskets. It must be borne in mind, however, that the entire orchard of 150 acres is not of

uniform age. Quite a large section has only recently been planted to trees. Still another section has been cut back and the trees re-budded, thus throwing the trees out of bearing for this year. A corps of workmen were budding in a section of the orchard the day of the field meeting, which was an interesting feature of the occasion to many of the visitors.

This orchard is remarkable for clean culture. The spaces between trees were as free from grass and weeds as a well-kept flower garden. Four teams are kept constantly at work in this orchard. Spring-tooth harrows are in constant use. The harrows are spread in such a way that the soil is worked close up to the body of the trees. Very little hand hoeing is done around the trees. Strange as it may seem, there is a noticeable absence of injury to the bark. This is due to the careful work of the men who operate the harrow. Another notable feature of this orchard is the close setting of the trees—240 trees to the acre. Although the main portion of the orchard is only four years old the trees quite come together in the narrow alleys, and unless cut back they will meet in the wider alleys by another year. This style of culture was widely commented upon, and the more experienced growers present were of the opinion that the owners of the orchard knew what they were doing.

The system of culture followed in this orchard is that of thorough cultivation during the growing season. The soil is kept mellow and free from weeds by constant harrowing. The last of the harrowing was being done the day of the field meeting and the sowing of crimson clover had begun. Clover is broadcasted among the trees and worked into the seed bed with a weeder drawn by one horse. By the time the orchard is ready to be plowed again the clover will have made a good stand, thus insuring a good cover crop for plowing under. Clover plays an important part in the management of this orchard, as it does in all modern systems of crop culture. Some growers present were inclined to the opinion that the owners of the orchard had prolonged the season of culture and had

delayed the sowing of clover, and that the result would be the growth of too much wood.

The trees in this orchard are all headed low. The average height of body or trunk does not exceed one foot, and a great many trees begin to branch close to the ground. The owners of the orchard prefer the trunk to branch a few inches above the ground, as a single trunk offers less opportunity for the working of borers. In this orchard we made particular note of the fact that all the fruit may be picked from the ground. The low-headed tree is a feature of modern peach culture that is worthy of comment. Its merits are two-fold: Ease of pruning and spraying, and quick and inexpensive picking. Both of these factors have become of great importance since the advent of the San José scale and the present scarcity and high price of labor.

The morning was given over to an inspection of the orchard. The Messrs. Barnes accompanied parties through the orchard and explained the methods of culture, etc. Their courteous attention to the visitors will be a remembrance of the occasion.

At noon lunch was served on the basket picnic plan. Tables and benches were arranged in order under the mammoth oak trees. Each guest was supposed to bring his or her lunch. The society furnished lemonade and sandwiches. There was a plentiful supply of everything, and at the close of the lunch hour no one had the appearance of being in need of food. Baskets of peaches were passed around by the hosts and everyone present had an opportunity to sample the product of the orchard and incidentally partake of the first native peaches of the season.

At one o'clock Mr. Charles L. Gold, of West Cornwall, president of the society, called the afternoon session to order and announced that a few informal addresses would be made. The first speaker called upon for remarks was Mr. J. Norris Barnes, senior member of the firm whose hospitality was present upon every hand. Mr. Barnes came forward amid the applause of the assembly. He apologized for what he con-



sidered a lack of preparation for entertaining the guests. He said that he and his brother would have liked more time to get the orchard in readiness for inspection. This remark caused laughter because everyone present had previously walked through the orchard and noted the wonderful care that had been given every tree—not in preparation for the occasion, either, as thorough cultivation is a matter of habit with this firm of peach growers. Mr. Barnes cordially welcomed the visitors and gave them the freedom of the orchard and grounds.

Secretary H. C. C. Miles was then called upon to explain the real occasion of the meeting, namely, to obtain statistics of the peach crop for a working basis for obtaining transportation facilities. Mr. Miles told of the arrangements which the society had made with the railroad for the movement of peaches to market. He stated that growers should give him an estimate of their shipments in order that the railroad may be advised in advance and afforded an opportunity to reserve cars and prepare them for handling the crop. Mr. Miles passed around blanks for each grower to fill out giving an estimate of the number of baskets to be shipped and their probable destination.

Mr. Flint, manager of the traffic department of the N. Y., N. H. & H. R. R., was then called upon to explain the arrangements that his company had made for moving this year's peach crop. He said that his company was making a great effort to coöperate with the growers in getting the crop to market, and to that end had fitted up a number of refrigerator cars. Still other cars were being fitted with shelving and would be reserved for shipping peaches. Mr. Flint explained how important it was to both grower and transportation company that he be advised in advance of the probable extent of shipments in order that they may have sufficient cars equipped in advance for the purpose. A charge of \$15 per car in addition to the regular freight tariff will be charged for the use of the cars, the same being for the expense of extra equipment. Cars containing 10,000 pounds and up-

wards will go into the fast freight service and reach their destination promptly. He stated that the shipper would have to furnish ice. Cars containing less than 10,000 pounds would move in the local freight service. Mr. Flint emphasized the point that unless he had at once reasonably accurate information as to the extent of the shipments it would be impossible for him to make provision for the shipment of the crop, as it required some time to equip the cars for the purpose. Mr. Flint stated that it would be impossible for him to move freight out of that valley and have it in New York next morning in time for the 2 a. m. market. The best he could do would be later in the morning. On shipments to Providence, Worcester, Springfield and Boston he could give satisfaction. Mr. Flint mentioned the perishability of peaches and stated that he wished the growers to understand that he was just as anxious to make a quick delivery as the shipper was to have him.

At this point President Gold took the opportunity to speak about the New England Fruit Show, which will be held in Boston this fall. Mr. Gold is an enthusiastic advocate of the possibilities of apple culture in Connecticut. He said that he knew of no reason why we should not grow as good apples in Connecticut as are grown anywhere in the east. He spoke of the prizes that will be offered at this exhibition and invited the fruit growers of the state to begin to make selections for the show in order that Connecticut may win its share of the prizes. He requested peach growers to reserve in cold storage specimens of peaches.

The next speaker was Mr. E. D. Curtis of Bantam, whom President Gold introduced as "a young man who had come to Connecticut to raise apples and pine trees." Mr. Curtis has recently come from New York city, and has purchased a tract of 1,000 acres of land near Litchfield which he will devote to commercial apple orchards. Mr. Curtis said: "I am going into apple culture because I believe it offers the best advantages of any department of horticulture. One reason why we are not successful is because we are

growing apples the same way we used to. This will not do because the Westerner has learned the new way and it pays." Mr. Curtis is a member of the publicity committee of the Pomological society and he urged upon the members present the importance of reserving specimens for exhibition at the Boston show.

Dr. George P. Clinton, botanist at the Connecticut Agricultural Experiment station was called upon to relate his experiences in Japan. Dr. Clinton recently returned from Japan, where he went to procure specimens of fungus to kill the gypsy moth. Dr. Clinton, who is an interesting speaker, related some of his experiences while on the trip. His description of the customs of the country was especially entertaining to his audience. Among other things of horticultural interest, he said that the Japanese fruit grower has to bag all his pears on the trees in order to protect them. In Japan they grow peaches on trellises.

Dr. W. E. Britton, state entomologist, also spoke a few words appropriate to the occasion. He emphasized the importance of the New England Fruit Show and what it would mean to fruit growing in New England. Dr. Britton said the Westerner believed in advertising his part of the country, and we should do the same with ours.

Mr. Charles E. Lyman of Middlefield gave a short history of the orchard at which the field meeting was being held. The most of the audience was greatly surprised to learn that the oldest portion of the orchard was only four years old. Mr. Lyman said that he had watched the growth of his orchard with a great deal of interest because it was one of the most notable orchards in the state.

The last speaker of the meeting was Mr. H. O. Daniels, of Middletown, ex-president of the Dairymen's Association. Mr. Daniels made a few humorous, but pointed, remarks that kept the audience in laughter.

The field meeting, while not largely attended, was especially interesting. Many of the most prominent peach

growers of the state were present, which offered a good opportunity for the exchange of views and to gather information relative to the quantity and quality of the crop. The universal opinion of the growers was that we shall have a large crop of the fruit this year, and that the recent rain has done much to insure size and quality.

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The next gathering in the series of summer meetings was arranged for August 17th, at the Seymour orchards of Messrs. Hale and Coleman. The following notice was sent out for this meeting:

By invitation of Bro. J. H. Hale and M. L. Coleman, members of the Society and friends will visit their large orchards near Seymour, Tuesday, Aug. 17th.

Mr. Hale says, "The orchards consist of fifty acres of young peaches, 100 acres young apples and 100 acres apples just coming into fruiting, all on the roughest piece of rocky land in Connecticut. Culture is good, bad, indifferent and in sod. Besides all this you can see off into three counties of the state and across the Sound to Long Island. There is a fine display of Baldwin apples on many of the trees. The orchard is not on 'Easy Street' and our Airships are not in working order, but those who enjoy roughing it may be interested to look us over. Our horses are all tired out and have gone to pasture for rest, but arrangements have been made for busses to meet the visitors at Seymour center and convey them to the farm. Fare, 50 cents round trip."

Unfortunately the day of this meeting proved very stormy and no one was able to attend. In the absence of any provision for postponement on account of rain, the meeting had to be given up for this year, at least, but the Society is in hopes that Brother Hale will renew his kind invitation in 1910, when we shall have the opportunity of visiting this interesting fruit farm, which is located on land that was once as rough and unpromising as any in the state for fruit culture.

### Third Field Meeting of the Season, at Storrs, August 24 and 25, 1909.

Through the kind efforts of Prof. A. G. Gulley and the other officers of the Agricultural College, the Society was enabled to arrange a very pleasant and successful trip to the college, marking the closing field meeting of the season. It was one of the best outings ever held by the Society, and covering two days' time gave ample opportunity to study the work of the college and come in touch with its workers. These farmers' excursions to the college are immensely helpful, especially to those who have not had the benefit of a college course, and should be made a regular feature of agricultural education in Connecticut.

The following report of the meeting prepared for publication in the *Connecticut Farmer* is well worth repeating here.

The two days' outing of the Connecticut Pomological Society at the Connecticut Agricultural College at Storrs Tuesday and Wednesday, August 24 and 25, was a most enjoyable event for all who availed themselves of the trip. The arrangements were on much the same lines as those made for the poultrymen's field meeting at the college last month, and which was such a pronounced success. In point of favorable weather conditions, good attendance, and the many interesting features carried out, the gathering proved to be one of the most successful field meetings held in Connecticut this season.

In order to keep in touch with the progress made at the college, especially along horticultural lines, it has become the custom of the society to visit Storrs every few years. Those who attended last week's outing found a great many changes and improvements over the conditions existing when the last meeting was held there some five years ago. A number of fine new buildings have been erected, additional land has been acquired, and the campus and adjoining grounds have been laid out and beautified with trees, flowers and shrubbery.

which have attained sufficient growth to add materially to the natural attraction of the location. The various departments of the college are in competent hands and the machinery of the institution is running as smoothly as it is possible for one of such size and extent. All this was noted with gratification by the visitors, and President Beach and his assistants received many well merited compliments.

The field meeting was arranged for through the kindness of Prof. A. G. Gulley and the other college officers, and while not all the members of the faculty were at home—August being the vacation month at Storrs—those who were on hand did all in their power to make the visitors welcome and their stay comfortable, interesting and profitable.

The fruit men, many of whom were accompanied by their wives, began to arrive at the college Tuesday forenoon, making the trip from Willimantic in automobiles. This arrangement afforded a quick and pleasant mode of reaching Storrs. A number came by train to Eagleville, where they were met by the college stage. After arriving each visitor registered and was then assigned to quarters in Storrs Hall, the boys' dormitory. Those accompanied by ladies were entertained in Grove Cottage, which is used by the girl students during the college year. Dinner in the college dining hall was next on the program, after which the visitors were taken in charge by Prof. Gulley, and the afternoon spent in a tour of the orchards and fields.

Prof. Gulley is a firm believer in sight-seeing and outdoor instruction at field meetings, consequently but little time was spent indoors listening to speeches. Teams were provided for the ladies, while the gentlemen walked. The first objective point was the large orchards and vineyards located on a distant hill some distance from the campus. This orchard is known as the "trial orchard" and contains one or two trees of a large number of varieties of such fruits as apples, plums, peas, peaches, etc. But few of the apple trees are in bearing this year, but the other fruits are more plentiful. An excellent opportunity was afforded to study the dif-



ferent varieties and Prof. Gulley was plied with questions at every step. The extensive planting of grapes looked well and is bearing a heavy crop of fruit. The plums, unfortunately, are suffering from an outbreak of "black knot," which is very prevalent at Storrs this year, and which is likely to destroy many of the plum trees. Cutting out the affected limbs seems to have little effect in checking the trouble.

On the way back from their hot tramp to the orchard the visitors took in the new Horticultural building and the fine range of greenhouses which have just been erected, and which the college and Prof. Gulley, especially, is justly proud of. These splendid buildings are conveniently planned, well built, and will, no doubt, prove adequate for the needs of the horticultural department for many years to come.

After a rest and supper, the company, which had been considerably augmented in number by later arrivals, gathered in the college chapel for the evening session. Nearly every seat was occupied and a most interesting and instructive meeting was held, lasting over two hours. Not all of the list of expected speakers were present, which was a great disappointment; but others were quickly found to take their places, so that the program was a good one. On the platform were President Beach, the host of the occasion, President Charles L. Gold of the society, Vice-President E. Rogers, and Secretary H. C. C. Miles.

President Beach opened the meeting with an address of welcome, which was both cordial and hearty. He said that the large number of visitors present proved that the college after all is accessible and that all talk of its removal is at an end. He stated that the college promised to be taxed to its utmost to provide for the students that were coming when the college opens in September. He also explained the changes that have recently been made in the course of study, which will make a closer connection between the college and the common schools of the state. President Beach extended the freedom of the institution to the visitors during their stay.

President Gold responded in behalf of the society, saying

that he was glad to see so many present. He said that the benefit of these gatherings is very largely in getting away from our more or less narrow conditions at home, and meeting our fellow farmers, which must result in broader views and greater encouragement to do better work in the future.

Prof. Gulley was next introduced and welcomed the visitors in a hearty manner. He said the object of inviting the society to come to Storrs was to enable the fruit growers to see the college, study its work, and learn what it is doing for the boys and girls of the state. He referred to the outbreak of "black knot" and "peach yellows," which just now is somewhat serious on plum and peach trees and suggested that its recurrence is upsetting some of our former theories regarding fruit diseases, and is forcing us to study these problems anew.

Mr. George A. Hopson of Wallingford, a trustee of the college, was called upon and responded briefly. He was followed by Mr. H. G. Manchester of Winsted, who also is a trustee. Mr. Manchester said that his specialty is more in the line of consuming fruit than in growing it. He spoke a good word for the college and said he was proud to have been a student here.

The next speaker was Mr. Charles E. Steele of New Britain, well known for his success in preserving and canning fruits for market. He spoke as one interested in the culture of fruits and in the work of the society. He referred to the importance of forestry in this country, and the respect and veneration we should have for trees, and for the natural beauties of our state. Mr. Steele said we waste too much of our fruit crops. The windfalls and imperfect fruit should be preserved in the form of juices, canned and dried fruits, all of which make valuable foods. "Let there be no waste in the fruit business," exclaimed Mr. Steele.

Prof. H. W. Hillyer of Farmington, formerly of the Wisconsin Agricultural College, spoke next, saying that in Wisconsin the watchword is "Service to the State," and that the college students have this impressed upon their minds at

every point. The college graduate should not scorn the practical in life. The college course is only the beginning of our preparation for life's work.

Mr. George A. Cosgrove, president of the Connecticut Poultry Association, was invited to address the meeting, which he did in a witty and entertaining manner. He gave an account of his experiences on an abandoned Connecticut farm for the past fifteen years, and said he went into poultry keeping to make a living, still he believed that there is profit in fruit growing. Poultry and fruit growing go well together, especially the raising of the small fruits. This combination makes a steady income every day in the year. Mr. A. J. Pierpont of Waterbury was the next speaker, responding for the Connecticut Dairymen's Association.

A question as to the value of hogs in an orchard brought forth various expressions of opinion, many favoring their use as cultivators of the orchard. Mr. Gold, however, was not in favor of the practice, believing that they injure the trees too much.

The last address was by Prof. Charles A. Wheeler of the college, who told of his vacation visits to the Yale Forestry School at Milford, Pennsylvania, and the Massachusetts Agricultural College at Amherst. He drew many profitable lessons from what he had seen. He said that the Massachusetts College is doing much for the improvement of country life conditions, and in securing coöperation among farmers. Coöperation in putting up fruits for market and advertising them under a certain brand or name offers great possibilities. The great problem in Connecticut to-day, as in every other state, is "how to make agriculture profitable." The disorganized condition of farmers and the competition to be met are important factors, and must be remedied before better conditions can exist. "The farmer is worthy of a larger return for his labors," said Professor Wheeler.

Before the meeting closed, President Gold called attention to the coming New England Fruit Show to be held at Boston in October, and urged all the fruit growers to aid in

making a creditable exhibit of Connecticut fruit. This show, said Mr. Gold, will be very largely an educational one, both to the consumer and to the grower, and the Pomological Society is anxious to have Connecticut well represented at the show.

Announcement was also made of the society's annual exhibition of fruit, which this year is to be held with the State Fair at Berlin, September 14 to 17. Prof. Jarvis gave notice of a demonstration in spraying to be given the next morning for the benefit of the visitors. The meeting then adjourned.

The second day of the field meeting dawned bright and warm and the visitors were early astir to enjoy further sight-seeing. Many found special interest in the dairy plant and cattle barns, for which Storrs is justly famed. Others visited the poultry department, where Prof. Stoneburn exhibited his flocks of choice fowls and explained the methods followed in feeding, care and breeding. Incidentally a small block of apple trees was noted near the poultry plant, and being thrifty in appearance, it was commented upon as an object lesson of what poultry will do in orchard culture.

Nearly all of the fruit men present availed themselves of the privilege of seeing the spraying demonstration conducted by Prof. Jarvis, which included the testing of various styles of pumps, both hand and power, nozzles and other equipment for successful spray work. Next came a visit to the trial grounds of the experiment station where melons and beans are being tested. This is largely a variety test, over fifty varieties of melons and twice as many varieties of beans are growing. One object of the test is to discover, if possible, the most disease-resisting varieties of melons for this section.

The forenoon wound up with a trip to Prof. Gulley's orchard of dwarf apples, and to the commercial apple and peach orchard. This latter is bearing a full crop of peaches this season, and the apple trees also show some very promising fruit. The visitors lingered among the trees, discussing pro and con the condition of the orchards and the methods of prun-

ing, culture, feeding and general care. In reaching the orchard the road lay through a magnificent stretch of woodland, which is one of the most valuable assets of the college.

Perhaps the most unusual sight at Storrs was the dwarf apple trees, which Prof. Gulley calls his "pets." These are planted only ten feet apart and being low-headed can be very economically handled,—pruning, thinning, spraying and picking the fruit can all be done from the ground, which are advantages over the usual tall orchard trees. The orchard is not showing much fruit this season, but the claims made for the dwarfs of a peck of fruit at four to five years is what Prof. Gulley believes can be accomplished. The orchard is surely a pretty sight,—trim, vigorous little trees of beautiful form. Not all the visitors, however, were won over to the dwarf orchard theory.

With the afternoon came the thought of leaving for home. The company of over one hundred and fifty visitors, as they took the autos for Willimantic, expressed regret at leaving the pleasant surroundings and warm friends at Storrs, and voted unanimously that their outing had been immensely profitable and enjoyable.

## Institute Work in 1909.

Taking up the record of this feature of our work where it was left in the last Annual Report, it may be said that Farmers' Institutes in Connecticut received their full share of attention during the year 1909. As mentioned in the Secretary's Report on page 125, the Pomological Society held 11 Institutes in the year, all of which were well attended and productive of much good to the fruit growers and farmers of the state.

These meetings, which were for the most part all-day events, held in coöperation with the local granges, were located as follows: Monroe, March 9, 1909; Bloomfield, March 16; Orange, March 17; Bolton, March 19; Cheshire, March 24; Wilton, March 25; Danbury, March 26; Milford, March 30; Morris, March 31; Thomaston, April 6, and Northfield, January 21, 1910. The attendance at each Institute averaged nearly 100, and the interest manifested in the addresses and discussions was very marked. The speakers were eagerly questioned, and the desire of those present for information and help on various farm and orchard topics was most encouraging.

The following program is inserted here as a sample of those carried out at all the meetings, and indicates the varied character and the practical results aimed at in our institute work.

### Institute at Milford, March 30, 1909.

#### PROGRAM.

#### MORNING SESSION AT 10.30 O'CLOCK.

ADDRESS OF WELCOME, . . . .	LECTURER OF THE GRANGE.
OPENING ADDRESS, . . . .	PRESIDENT C. L. GOLD,
	of the Pomological Society.
ADDRESS, "The Seeding and Care of Grass Lands,"	
	CHAS. E. LYMAN, Middlefield.
ADDRESS, "Poultry Successes and Failures,"	
	PROF. F. H. STONEBURN, Conn. Agricultural College.
	W. H. CARD, Manchester.



## RECESS.

Dinner will be served by the Grange ladies in Mechanics' Hall.

## AFTERNOON SESSION AT 1.30 O'CLOCK.

ADDRESS, "Strawberries for Home and Market,"

J. H. HALE, South Glastonbury.

ADDRESS, "Practical Methods of Growing and Marketing Fruits and Vegetables,"

MR. A. T. STEVENS,

The Connecticut Agricultural College, Storrs.

DISCUSSION, "The Spraying Problem; Some Timely Hints and Helps,"

MR. H. L. FROST, Arlington, Mass.

J. NORRIS BARNES, Wallingford.

## DISCUSSION AND QUESTIONS FOLLOWING EACH ADDRESS.

A question box will be open to receive inquiries on any farm topics to be discussed as time permits. This will be made a prominent feature of the meeting; all are urged to bring questions and participate in the discussion.

*Even if you are busy you can't afford to miss this splendid meeting—  
The best of the Winter! It will pay you in new and helpful ideas.*

It is to be regretted that space will not admit of publishing here some of the main points of the many splendid addresses given at these institutes.

The speakers at all the institutes included the workers at our Experiment Stations, the faculty of the Agricultural College and some of the most successful and experienced farmers and fruit growers to be found in the state, and it goes without saying that their talks were right to the point, extremely practical and helpful.

The great value of the Farmers' Institute work is being felt more and more each year. Probably no better means has yet been found for the dissemination of helpful and accurate knowledge and the teaching of better methods of farm practice.

That there is room for improvement in the work no one will deny. A larger provision for institutes should be made by the state. A better system of management under one efficient head should be inaugurated, and we doubt not this will be done in the very near future. But, in any case, the good results of the institutes as carried out for many years by the Pomological Society and other agricultural associations in the state is clearly to be seen, and the value and popularity of Farmers' Institutes for Connecticut is firmly established.

# The Twelfth Annual Exhibition of Fruits, Held at Berlin, September, 1909.

## SCHEDULE OF PREMIUMS OFFERED.

### FIRST DIVISION—COLLECTIONS.

Class 1.	Best general collection of fruits by grower, of which not more than two-thirds to be of apples. See Rule 7 ..	\$10.00	\$5.00	\$3.00
Class 2.	Best collection, 15 varieties of apples.	5.00	2.50	1.00
Class 3.	Best collection, 10 varieties of apples ..	3.00	1.50	.75
Class 4.	Best collection, 8 varieties of apples, for general purposes .....	2.00	1.00	.50
Class 5.	Best collection, 5 varieties of apples, for market use* .....	3.00	1.50	.75
Class 6.	Best collection, 12 varieties of pears ..	5.00	2.50	1.00
Class 7.	Best collection, 6 varieties of pears ..	2.00	1.00	.50
Class 8.	Best collection, 12 varieties of grapes ..	5.00	2.50	1.00
Class 9.	Best collection, 6 varieties of grapes ..	2.00	1.00	.50
Class 10.	Best collection, 10 varieties of peaches	5.00	2.50	1.00
Class 11.	Best collection, 6 varieties of peaches.	3.00	1.00	.50

### SECOND DIVISION—SINGLE PLATES.

Class 1.	Best single plates of following varieties of apples, each .....	\$1.00	\$ .50	\$ .25
	Red Astrachan, Sweet Bough, Golden Sweet, Yellow Transparent, Williams' Favorite, Oldenburg, Porter, Gravenstein, Red Bietigheimer, Fameuse, Fall Pippin, Maiden Blush Twenty Ounce, Hurlburt, Wealthy, Rome Beauty, R. I. Greening, Baldwin, Talman Sweet, Cogswell, Hubbardston, Jonathan, Gilliflower, King, Northern Spy, Belleflower, Pewaukee, McIntosh Red, Red Canada, Sutton Wagener Westfield, Jacob's Sweet, Fallawater, Golden Russet, Roxbury Russet, Newtown Pippin, Peck's Pleasant, Ben Davis, Hyslop Crab, and for all other worthy varieties premiums of one-half the regular amounts are offered: That is, 50c., 25c. and 15c., respectively.			
Class 2.	Best single plate of the following varieties of pears, each .....	\$1.00	\$ .50	\$ .25
	Clapp's, Bartlett, Bosc, Angouleme, Louise Bonne, Diel, Onondaga, Anjou, Lucrative, Boussock, Bufum, Howell, Flemish Beauty, Mt. Vernon, Seckel, Clairgeau, Lawrence, Sheldon, Easter Beurre, Keiffer, LeConte, Nelis. Of other worthy varieties not to exceed ten.			

\* This class is intended to draw out the grower's ideas of value of varieties. In making the award this will be considered as well as the condition of the specimens shown.

Class 3.	Best single plate of following varieties of Grapes, each .....	\$1.00	\$ .50	\$ .25
	Moore's Early, Brighton, Concord, Eaton, Hartford, Wilder, Worden, Isabella, Agawam, Delaware, Diana, Diamond, Jefferson, Campbell's Early, Clinton, Green Mountain, Catawba, Lindley, Salem, Empire State, Martha, Niagara, Pocklington. <i>Of other worthy varieties not to exceed ten.</i>			
Class 4.	Peaches and plums, each valuable variety .....	\$1.00	\$ .50	\$ .25
Class 5.	Quince, each valuable variety .....	1.00	.50	.25
Class 6.	Grapes, grown under glass, one bunch each variety .....	1.00	.75	.50
Class 7.	Cranberries, best exhibit, any variety.	2.00	1.00	

## THIRD DIVISION—CANNED FRUITS, JELLIES. ETC.

*For Table Use.*

(Wives and daughters of members may compete in this division without payment of any membership fee.)

Class 1.	Best collection canned fruit, 15 varieties .....	\$8.00	\$4.00	\$2.00
Class 2.	Best collection canned fruit, 8 varieties .....	4.00	2.00	1.00
Class 3.	Best collection canned berries, 6 varieties. See Rule 8 .....	3.00	2.00	1.00
Class 4.	Best collection pickles, 6 kinds, one quart each .....	3.00	2.00	1.00
Class 5.	Best collection jellies, 6 kinds .....	3.00	2.00	1.00
Class 6.	Best single can of the following fruits. Strawberries, Blackberries, Black and Red Raspberries, Currants, Gooseberries, Huckleberries, Cranberries, Grapes, Pears, Yellow and White Peaches, Apples, Quinces, Crab Apples, Cherries, Pineapples, European Plums and Japan Plums. (See Rule 8.)	.75	.50	.25
Class 7.	Best single jar jelly made from above named fruits .....	.75	.50	.25
Class 8.	Best sample unfermented fruit juice, each kind, not to exceed six .....	.75	.50	.25

## FOURTH DIVISION—PACKED FRUITS.

Class 1.	Best packed barrel choice market apples	\$5.00	\$2.50	\$1.00
Class 2.	Best box choice apples .....	2.00	1.00	.50
Class 3.	Best 3 boxes choice apples of any one variety .....	10.00	6.00	3.00
Class 4.	Best standard basket choice peaches ..	2.00	1.00	.50
Class 5.	Best peck basket choice peaches .....	1.00	.50	.25
Class 6.	Best package choice grapes .....	1.00	.50	.25
Class 7.	Best package of apples, pears, peaches or plums, of not over one peck, and of convenient size for buyer to carry*	2.00	1.00	.50

\* This is intended to draw out the grower's ideas of an ideal package in size and shape to be easily carried by consumers.

## FIFTH DIVISION—NUTS, ETC.

Class 1.	Best specimen any variety of cultivated nuts .....	\$1.00	\$ .50	\$ .25
Class 2.	Best sample of native nuts, any kind..	1.00	.50	.25
Class 3.	Best collection native nuts, made by boy or girl and correctly named (exhibitors in this class not required to be members of the Society) .....	2.00	1.00	.50
Class 4.	Best arranged table piece of home-grown fruits .....	2.00	1.00	.50
Class 5.	Articles not classified, for which discretionary premiums may be awarded.			

## RULES OF THE EXHIBITION.

RULE 1. All Exhibits must be received for entry not later than noon of Tuesday, September 14, and must be in place by 6 p. m., as judging will begin promptly on opening of second day—Wednesday. (This rule will be strictly enforced.)

2. Entries of collections in First and Third Divisions should be made with the Secretary on or before Saturday, September 11, using enclosed entry blank for the purpose, that proper table room may be provided.

3. All articles entered, except in Fifth Division, must be grown or prepared by the exhibitor.

4. All fruits shall be correctly labeled (if possible) and except grapes and crab apples, five specimens, neither more or less, shall make a plate, either single or in collection.

Of crab apples ten specimens, and of grapes three bunches, shall make a plate, except where noted. The collections also shall embrace just the required number of plates.

5. No exhibitor shall make more than one entry for the same premium, nor enter the same plate for more than one premium.

6. In the various collections, the value of the varieties shown, as well as the conditions of the specimens, will be considered in making the award.

7. Entries in Division 1, Class 1, must not contain over two-thirds apples, or over one-fourth of any other single class of fruit.

8. Entries of different kinds of Canned Fruit must be self-evident; that is, separate varieties of "red raspberries" or "yellow peaches" will not be considered as distinct kinds. Cans to be opened for sampling at the discretion of the judges.

9. Lists of varieties in all collections must be made and placed with entry card on collection.

10. As the object of the Society is to encourage the growth of fruits of fine quality, wormy or diseased specimens or those infested with San Jose Scale will not be allowed to compete.

11. Premiums will be awarded to members of the Society only, except as noted in Third Division.

12. No exhibit shall be removed without the consent of the committee, until the close of the meeting. Exhibitors are requested to state whether the fruit is to be returned to them, or donated to the Society.

*Exhibitors are asked to contribute the best exhibits to be sent to Boston as part of the State's exhibit at the New England Fruit Show.*

The above was the list of prizes as revised for the Society's 12th Annual Exhibition, which was held in connection with the State Fair at Berlin, opening September 14, and continuing four days.

The details of the exhibition have been so thoroughly covered in the reports of the Exhibition Committee and the Secretary that only brief mention of the various features is necessary here.

It should be said that the offer of the State Agricultural Society and the Berlin Agricultural Society officials was a very liberal one, and the kindness and hearty coöperation of the fair officers was an important factor in the success of our exhibition.

Generally speaking, the show was an excellent one, although the quantity of fruit displayed was not as large as in some previous years, also the fruit was not so highly colored owing to the early date at which the show was held. The growers manifested a good deal of interest in the premiums offered for packages of fruits, and some very creditable displays of packed barrels, boxes and baskets were made.

Prof. Gulley, for the Connecticut Agricultural College, made an extensive display showing a wide range of varieties of much educational value.

The splendid peach crop of 1909 was represented by some exhibits of very choice fruit.

The exhibits of canned fruits, etc., by the ladies was unfortunately not as large as usual. This department should receive more attention in the future, as the possibilities in the line of fruit preserving are undoubtedly great and should be more generally recognized.

Those who judged the show were Prof. S. T. Maynard of Northboro, Mass.; Wilfrid Wheeler, Concord, Mass.; Edwin C. Powell, Springfield, Mass.; W. P. Robertson, Hartford, and Mrs. H. L. Crandall, Farmington.

A number of firms made displays of spraying outfits and supplies, fruit packages, etc., but the feature of demonstrations in spraying, fruit packing, etc., we were not able to carry out. It is hoped that this very helpful side of our fruit shows may be made more prominent in coming years.

Throngs of people visited the exhibition during the four days of the Fair, thus benefiting by the Society's work along the line of encouraging the growing and eating of more and better fruits throughout Connecticut.



## Connecticut at the New England Fruit Show.

While the New England Fruit Show and its very gratifying results has been freely touched upon in the various reports presented at the annual meeting of the Pomological Society, yet the importance of the event warrants a somewhat more extended account here, especially in view of the prominence in the Show of Connecticut-grown fruit.

Perhaps a brief word concerning the inception and development of the Fruit Show would not be out of place. On Nov. 23 and 24, 1908, a New England Conference, called by the governors of the New England States, was held in Boston, at which orchards and forests, sea products and highways were discussed. As an outcome of that meeting the officials of the New England States in charge of their agricultural and horticultural interests met at Boston in December to consider the papers read at that meeting, and to propose uniform laws for all New England on subjects connected with it. That meeting did not result in an undue burdening of the statute books with legislation, but it did result in this present New England Fruit Show. At that meeting were men from all the New England States who were intensely interested in orcharding, and it was agreed that in no way could the business be better revived and stimulated than by holding such an exposition as this. With these men to resolve was to act, and a temporary organization was formed at that time, which took up the preliminary arrangements and managed them until superseded by the present corporation known as the New England Fruit Show.

J. Lewis Ellsworth, Secretary of the Massachusetts State Board of Agriculture, was chosen President. Wm. P. Rich, Secretary of the Massachusetts Horticultural Society, Vice-President. Wilfrid Wheeler, of Concord, Mass., Secretary, and A. Warren Patch, of Boston, Treasurer. A State Vice-President was selected by each of the New England States.

Connecticut was ably represented on the Board of Vice-Presidents by President Chas. L. Gold of the Pomological Society, having been chosen at the annual meeting of 1909, at which time it was also decided our state ought to send as fine an exhibit of fruit to the Show as possible.

In the work of preparation for a state exhibit the Pomological Society naturally took the lead, a conference of those interested in the matter was called early in March by Mr. Gold, when the question of financing the undertaking was discussed. As a result, a bill calling for an appropriation by the state was prepared and introduced in the General Assembly. This appropriation of \$500 was granted, and together with funds from the Society's treasury and several subscriptions received from interested citizens proved sufficient, with careful management, to meet the expenses of collecting and installing the exhibit. In addition Conyers Manor offered a silver cup as a prize; Mr. Chas M. Jarvis \$25 as the "Berlin Prize," and the Pomological Society put up a Connecticut State Prize.

In order to arouse interest in the Fruit Show among Connecticut farmers and fruit growers information was circulated through the press and at meetings, and by various means, the matter was kept constantly before the public during the entire summer. In July the officers of the Society issued the following circular, sending copies broadcast over the entire state:

"An important event, and one of unusual interest to all lovers of choice fruit, will be the New England Fruit Show to be held in the City of Boston, October 19-24, 1909. The project is an outcome of the now famous New England Governors' Conference held last Fall, and the object is to unify and emphasize the importance of the horticultural interests of the six New England States. Already the success of the undertaking is assured. While the interests of the several New England States are to a large extent identical, no effort has been made heretofore to concentrate these interests along any one special line. This the Boston Fruit Show will aim to do, and will show conclusively that the possibilities of New England agriculture are second to none.

"We know that New England has the soil, the climate and the energy and the brains to produce fruit superior in quality and appearance to that grown anywhere in America.

"What we need most is an opportunity to prove this to our neighbors and to the outside public. Our Western competitors are threatening our highest class markets, not with better fruit, but by better advertising and more business-like methods of handling and marketing their products, and they have already convinced many people.

"It is time our growers woke up and imitated their methods and beat the Westerners at their own game. It is confidently believed that the coming fruit show, if carried out on the lines already planned, will furnish ample proof that New England fruit men *are* alive to their opportunities and *can*, by uniting their efforts, bring together such a magnificent display of fruit products as will astonish not only the world, but New England itself.

"Connecticut's part in this great undertaking is just now the most important thing to be considered. The Connecticut Pomological Society, 'the recognized organization of the fruit growers of the state,' has been given charge of arranging for the Connecticut exhibit. The state has been asked to help finance the work, and it is hoped many public spirited citizens will assist with offers of premiums and contributions.

"But the responsibility for a creditable display from our state rests upon the growers themselves. Every grower of good fruit should be represented by at least one entry, and every grower should realize the unusual opportunity that is offered to achieve a reputation for his products and for the state.

"We want Connecticut to be at the head of the premium list, and she can be if the fruit growers will respond unanimously.

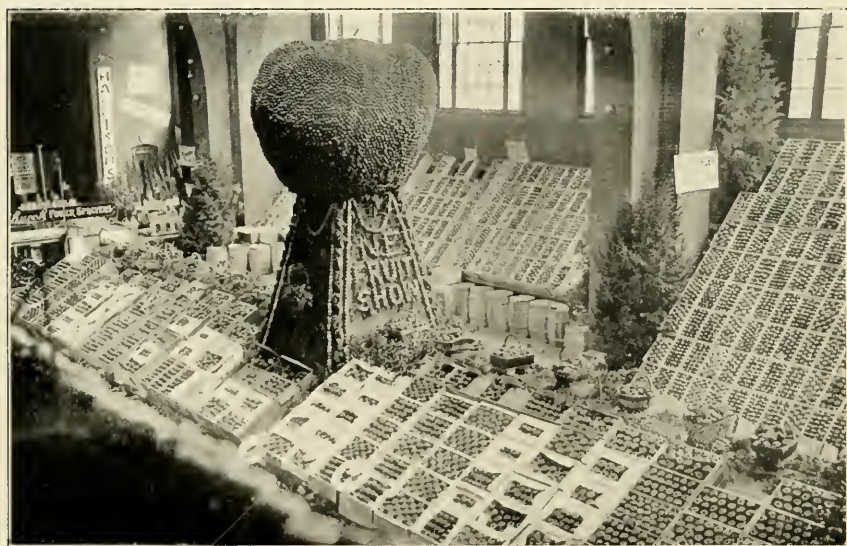
"Intending exhibitors should begin now to take special care of their trees and fruit, with the object in view of having some choice specimens to send to Boston next Fall.

"With the abundant peach crop promised in this state this season, as well as the fair prospect for apples and other fruits, it would seem reasonable to expect that Connecticut fruit will occupy a prominent place in the New England Show.

"The premium list of the Show is nearly ready for distribution, and copies can be had for the asking by addressing H. C. C. Miles, Milford, Connecticut, the Secretary of the



Another View of the Connecticut Exhibit which Received the First Prize for Best Display Made by Any State.



View of the Main Exhibition Hall, Showing the Mammoth "Apple" Centerpiece, and How the Various Exhibits were Effectively Staged.

SNAPSHOTS OF THE GREAT NEW ENGLAND FRUIT SHOW, AT BOSTON,  
OCTOBER 19 - 24, 1909.





State Society, or President C. L. Gold, West Cornwall, who has been appointed Vice-President for Connecticut.

"All who have any fruit for exhibition are requested to communicate at once with either of the above named officials, and full information will be sent them.

"Remember that the good name of our state is involved and we must all work together for a successful exhibition!"

While the responses received from growers was quite encouraging, early in August a committee was appointed to canvas the state and secure fruit suitable for exhibition purposes. This committee, composed of Mr. N. S. Platt of New Haven, Prof. A. G. Gulley of Storrs, and Secretary H. C. C. Miles of Milford, coöperating with President Gold, did efficient work in collecting exhibits, much of the early and more perishable varieties of fruit being at once sent to cold storage in Hartford. A quantity of fine peaches were thus stored, the fruit coming from such well-known orchards as those of C. E. Lyman of Middlefield, J. H. Hale of Glastonbury, Root Bros. of Farmington, and N. S. Platt of New Haven.

Apples, of course, occupied the leading place in the collection, although it proved a hard task to find perfect exhibition fruit in such an unfavorable apple year. A large number of growers were interested to the extent of making an exhibit and competing for premiums in their own name, while in other cases the fruit was purchased by the committee for use in the general state exhibit.

A very material help was found in the choicest fruit shown at the Society's Annual Fall Exhibition. This was reserved and placed in storage to be used at Baston.

Thus the work of preparing the exhibit went busily on, until on October 14, the fruit from all over the state was gathered at Hartford, and a car load of Connecticut's choicest products went forward to Boston.

Perhaps the most difficult part of the work came in the arranging and setting up of the extensive exhibits, and the three days prior to the opening of the show were busy ones for those in charge of the Connecticut display.



Under the leadership of President Gold, to whose efficient work and excellent judgment was due, more than to any other one worker, the success of the Connecticut exhibit, the following Connecticut people ably assisted: H. C. C. Miles, Milford, Secretary of the Pomological Society; Prof. A. G. Gulley of the Connecticut Agricultural College, and Mrs. Gulley; Mr. and Mrs. E. Rogers, Southington; Mr. and Mrs. Stancliff Hale, South Glastonbury; L. C. Root, Farmington; Mr. and Mrs. J. H. Hale, South Glastonbury; Mr. and Mrs. N. S. Platt, New Haven; Miss Marion Hale, South Glastonbury; H. B. Reed, Greenwich, and E. M. Stoddard, Storrs. It should be added that President Gold, Secretary Miles and Stancliff Hale remained in charge of the exhibit until the final close of the show.

The results of the energetic work and good taste of the Connecticut men and women was a magnificent display, entirely creditable to the state, and the fact that the Connecticut exhibit was the only state exhibit completed in time for the formal opening of the show added much to our credit.

The view opposite page 274 shows how the exhibit appeared when in place. It was the admiration of every visitor, as the following clipping from a newspaper report will testify:

"Connecticut's display, headed by that of the State Pomological Society, took the lead for variety and effectiveness of display, although Maine had the most fruit. Connecticut's display consisted of a big panel about twenty by forty feet in size, of box apples showing superb fruit in many colors tastefully arranged, flanked on either side by open head barrels of Spys, Greenings, Baldwins, Kings, York Imperials, Hubbardstons, Russets, McIntosh, and other popular favorites at their very best. Across the front stretched a long table, in the center of which was a great fancy basket holding a bushel or more of Connecticut's choicest apples, pears, peaches, quinces, grapes and cranberries. On either side were peaches galore in crates, baskets and on plates, with enough of grapes and pears worked in to give variety. To the left of this general exhibit the Connecticut Agricultural College had a fine display of a great variety of fruits. Hanging from the balcony overhead was to be seen "Connecticut," spelled out with

bright red apples on a green background. This helped to advertise 'the State of the good red apple.' Banners of the Pomological Society hung from the balcony on either side."

More than 60 fruit growers furnished of their best fruit for the Connecticut display and to them largely belongs the credit of the great success achieved by the state at the New England Show.

Scores of Connecticut people were in attendance at the show, benefiting by its many educational features. Our growers were aroused as never before to the importance of fruit growing and the possibilities that our state offers for the production of the very finest fruits.

Astonished at what a remarkable showing Connecticut can make in the fruit line, when she tries to do her best, and encouraged to still greater endeavor in the future, we of Connecticut have every reason to feel proud of the result of our efforts, and to bless the men who conceived and carried out the remarkably successful New England Fruit Show of 1909.

In conclusion, it is gratifying to note the

### Prizes Won by Connecticut Exhibitors.

That Connecticut fruit won its full share of the prizes in the final awards is shown by the fact that some 35 prizes and 3 silver cups went to Connecticut growers.

The following list is taken from the official awards:

The Connecticut Pomological Society won first prize for the largest and best collection of fruits made by any state. The display comprised 250 boxes and 25 barrels of apples, and 150 plates fruits, together with 150 plates from the Connecticut Agricultural College.

Hale and Coleman, Seymour, silver cup offered by International Apple Shippers' Association, for the best packed exhibit of apples; third prize on the best display of apples shown in boxes, baskets and plates.

J. H. Hale Co., Glastonbury, silver medal for exhibit

of peaches, including Hale's new peach, "Selah"; first prize for best plate Ben Davis apples.

E. E. Brown, Superintendent Westland Farm, Pomfret, first prize for best barrel Northern Spy apples grown in New England, and also sweepstakes prize for best barrel Spys; first prize for best plate Newtown Pippin apples; first prize for best plate Coggswell apples; fourth prize for best 5 boxes packed apples; third prize for best plate Fall Pippins.

G. A. Drew, manager Conyers Manor, Greenwich, first prize for best box of Greenings; first prize for best box of Northern Spy; second prize on best barrel of Rhode Island Greeninks; first prize for best 5 varieties commercial apples for Connecticut; silver cup offered by Conyers Manor of Connecticut for best 12 specimens of King apples grown in Connecticut; first prize for best 12 specimens Northern Spy apples; third prize for best plate Rhode Island Greenings; third prize for best plate Pewaukée; first prize for best plate Fall Pippins; third prize for best plate Ben Davis apples; the Berlin prize of \$25 for the best collection of apples grown in Connecticut.

Jennison and Gridley, Southington, fourth prize for best display of apples shown in boxes, baskets and plates.

Cheshire grange, first prize for best 10 varieties of apples shown by any grange.

Thomas Griswold and Co., Wethersfield, second prize for best 5 varieties commercial apples for Connecticut; second prize for best plate Peck's Pleasant apples.

Dennis Fenn, Milford, third prize for best 5 varieties commercial apples for Connecticut; second prize for best plate Sutton Beauty apples; second prize for best plate Stark apples.

N. S. Platt, New Haven, first prize for best plate Elberta peaches.

E. Haley, Mystic, first prize on plate Howe cranberries; second prize on early black cranberries.

L. J. Grant, Warehouse Point, second prize for best plate Westfield apples; second prize for best plate Roxbury Russet; second prize for best plate Gilliflowers.

C. I. Allen, Terryville, third prize for best six bunches native grapes. Also third prize for best display of native grapes.

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### **"The Music of the Apple."**

In its blossoms sing the bees, accompanied by the melodies of the winds. Boreas and Zephyr woo its petals of pink and white. Song-sparrow and thrush drain dew from its budded cup and pay in amorous madrigals amid bowers of tinted snow.

Its calyx closes not by day or night, greeting alike the orb which, ages ago, smote Memnon into marvelous harmonies, and the morning and evening stars and all the singing spheres.

The ripened fruit on blazing hearth lisps music learned from bee and bird, and mimics the farmer's chuckling laugh as the peel crackles before the burning log, while the housewife's pliant of slumberers in love with sleep is reproduced in sputter of the roasted rind.

The sizzling skin recalls the cricket's drowsy chirp, and imitates the iteration quaint of unconfuted katydids.

From the mouth of the gorged press gushes forth, in honeyed streams, juice of petal, bud and flower, that unseals humanity's poet-lips to chant in zephyr-song, in bird-note and in brook-tune.

Stripped and spiced, sliced and sugared, and then by deft fingers tucked away in clothing made of waving grain, it sings to the oven glees of autumn, summer, spring. Carved with precision by housemaid, wife or spa attendant, the fruit of Pomona and the product of Ceres hymn their swansong beneath the tickled palate of delighted man.

But, above all these symphonies, the enraptured orchardist hears the tinkle of the gold and of the silver coin, no less tuneful than the rune of rivulet, the murmur of bees, the liquid music-drops of birds and cadences of summer showers. Lustrous to his eyes are the minted heaps, yellow as the sunbeams or frost-white as star-shine and moon-gleam. Welcome, too, the hanknote's crinkle and as delicious to his ear as the rustle of leaf and blossom, when the wind wandered amid the orchard lanes.—*From the Boston Globe.*

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## NECROLOGY.

Again we are forced to acknowledge the Hand of Death in the ranks of our Society.

Seven of our members have been added during the year of 1909 to the Roll of the Dead. These final pages of the Report are devoted, as is most fitting, to the memory of those who have labored with us, but who are now at rest in the Great Beyond.

Following is the list of deaths reported to the Secretary's office since the last Report was published:

L. A. VIBBERTS, of *New Britain*, died July, 1908. He had been a member of the Society for a long term of years, although not actively engaged in fruit growing. Mr. Vibberts was prominently identified with the business interests of New Britain.

D. E. STONE, of *Cheshire*, died during the year 1909. He was a well known farmer and fruit grower in Cheshire and had been a member of the Society since 1901.

C. P. PEASE, of *Ellington*, died in April, 1909. He became a member of the Society in 1904 and was always interested in its welfare.

HUBER BUSHNELL, of *Berlin*, died suddenly in May, 1909. Mr. Bushnell had been a member for many years, and, with Mrs. Bushnell, took an active interest in the work of the Society, especially the annual exhibitions, to which they contributed large exhibits. Mr. Bushnell was of a genial, kindly nature, respected by all who knew him. He was a veteran of the Civil War and engaged in farming at Berlin.

DR. THOMAS MORTON HILLS, of *Willimantic*, died during the year 1909. He was a prominent physician of Willimantic where he conducted a private hospital. A member of the Society since 1902, Dr. Hills took a keen interest in all things connected with horticulture.

JOSIAH M. HUBBARD, of *Middletown*, died very suddenly at his home in the Johnson Lane District on December 20, 1909. He had been ill but a short time with heart trouble, and the news of his death came with a distinct shock to the community and to his large circle of friends throughout the state. Mr. Hubbard's death is a real loss to Connecticut agriculture, and particularly to the Pomological Society, of which he had been a prominent and active member since its formation, and he was at one time vice-president of the Society. While he was interested in all lines of agriculture, he had a special love for fruit culture, and was largely engaged in growing peaches. When the recent peach yellows legislation was enacted Mr. Hubbard was appointed Peach Commissioner and had charge of the enforcement of the yellows law in the state. He was a valued member of the State Board of Agriculture for many years, and also served on the Board of Trustees of the Connecticut Agricultural College.

He was deeply interested in the Grange and had been a member of the order for a great many years. He filled acceptably offices in the state Pomona and subordinate Grange and was at one time overseer of the Connecticut State Grange.

These various positions brought him a wide circle of acquaintances and all who came to know Mr. Hubbard held him in the highest esteem. Mr. Hubbard was a well read man and possessed of a broad mind and strong intellect, and as a writer and speaker he never failed to interest and instruct his audience. His genial presence and readiness to help at farmers' meetings all over the state will be sadly missed. Mr. Hubbard was an eminent member of that choice company of leaders who have had such a strong influence on Connecticut agriculture, and whose number is rapidly growing less.



The following account of Mr. Hubbard's life is taken from a Middletown daily paper:

J. M. Hubbard was a native of Middletown and born near to where he died on July 16, 1832. He was 77 years, 5 months and 4 days old. He was twice married, surviving both wives. He leaves a son, Robert, by his first wife. He also had three sisters, Mrs. James H. Bunce, of this city, Miss M. Louise Hubbard, who resided with him, and Mrs. J. W. Hubbard, of Greene, Ohio.

He was a pupil at the famous school of Daniel Chase, about 1847-8. In 1865 he went to Kansas and became a very prominent figure in that state. He was unalterably opposed to slavery, and resisted with his best effort the attempt of Missouri to force slavery on to Kansas. He was a member of the first Kansas state senate and had he chosen to remain in that state would have become one of its leading citizens. The death of his brother at the battle of Antietam and of his father, Josiah M. Hubbard, induced him to return to Middletown. While in Kansas the Civil War broke out and Mr. Hubbard enlisted as a private in Company K, 11 Kansas Cavalry, on Sept. 8, 1862, for three years, and was discharged as first lieutenant at Fort Leavenworth on Sept. 13, 1865, by reason of expiration of term of service.

He was disabled at White River, Ark., January, 1863, by typhoid. He was in the hospital at Springfield, Mo., in February, 1863, and at Rolla, Mo., in June of the same year. He served as brigade commissary, regimental and brigade quarter-master, acting adjutant of Post and Regimental A. A. A. G. on the staff of the commanding general. He was prominent in Grand Army circles and Joined Mansfield Post, on March 30, 1882, and was representative to N. E. in 1887.

While in Kansas, Mr. Hubbard studied law with the idea of taking that up as a profession, but the death of near relatives changed his plans. He was a ready and forceful speaker, with a remarkable command of language. He was direct and logical in his utterances and no one was heard with greater pleasure at social gatherings or on more important occasions than Mr. Hubbard. He was the sort of a man calculated to make a success in any walk of life.

Mr. Hubbard was descended in both the paternal and maternal line from George Hubbard, one of the original settlers of Hartford, who came to Middletown in 1650 and founded this town. He had held a number of town offices and at the time of his death was a member of the town school board. He had rep-

resented the town in the legislature, being a member of the House in 1886. He was one of the solid citizens who give character and strength to a community, and his death will be a distinct civic loss. He always stood for what was best in the community, and his high character was an example and impulse for others.


In 1903 he was appointed a member of the state board of mediation and arbitration by Governor Chamberlain; by Governor Roberts in 1905 and in 1907 by Governor Woodruff. His term expired last June.

He was interested in historical subjects and was a member of the Middlesex County Historical Society. He was a pleasing speaker, and a good writer, especially on subjects of historical interest. The church also held his interest, and he was baptized in the North Congregational church in 1832, and retained his membership here, even while in Kansas.

His funeral was largely attended from the residence of his son on Tuesday afternoon, Dec. 23rd.

JAMES HOYT, of *New Canaan*, died Jan. 25, 1910, after a brief illness. Mr. Hoyt had been a member of the Society since its earliest years, and never failed to attend the meetings. He was a unique figure at agricultural gatherings, somewhat eccentric, yet genial and social by temperament he made many friends. "Uncle Jim," as he was familiarly called by his acquaintances, will be greatly missed wherever farmers gather.

Mr. Hoyt was a son of Stephen Hoyt, and a member of the well-known firm of nurserymen—Stephen Hoyt's Sons, of New Canaan. Mr. Hoyt, however, took a special interest in dairy farming and managed that branch of the Hoyt farm. Mr. Hoyt left a wife but no children. His brother, Edwin Hoyt, the other member of the nursery firm, passed away about a year previous.



# LIST OF MEMBERS

## OF THE

# CONNECTICUT POMOLOGICAL SOCIETY

## 1910

This List Corrected to April 1, 1910.

### LIFE MEMBERS.

Ashton, Frank B., Middletown.	Gilbert, Orrin, Middletown.
Talcott, Phineas, Rockville.	Clark, Arthur J., Durham.
The Conn. Agricultural College, Storrs.	Curtis, Ellicott D., Bantam.
Brown, J. Stanford, Yonkers, N. Y.	Bronson, Nathan S., New Ha- ven.
Shepperd, Walter S., Shaker Station.	Jarvis, Chas. M., Berlin.
Brown, Everett E., Pomfret Center.	Repp, Albert T., Glassboro, N. J.
Geer, Everett S., Hartford.	Brown, F. Howard, Marlboro, Mass.
Lucchini, Victor E., Meriden.	Rogers, Elijah, Southington.
Gulley, Prof. Alfred G., Storrs.	Savage, Theo. M., Berlin.
Miles, Henry C. C., Milford.	Yale, Arthur C., Meriden.
Gold, Charles L., West Corn- wall.	Clark, Chester H., Durham Cen- ter.
	Cook, Allen B., Farmington.

### ANNUAL MEMBERS.

Abbe, Linden S., Hazardville.	Apothecaries Hall Co., Water- bury.
Adams, Joseph, Westport.	Armstrong, Lee F., Oxford.
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Allen, Chas. I., Pequabuck.	Atkins, Mrs. F. C., Hartford, 12 South Highland street.
Alsop, J. W., Avon.	Atkins, T. J., Middletown.
Allyn, W. I., Mystic.	Atwater, Edwin B., New Ha- ven, Box 207.
Andrews, Cornelius, New Bri- tain.	Atwood, C. B., Watertown.
Andrews, E. C., Cheshire, R. F. D.	Atwood, Oscar F., Brooklyn.
Andrews, J. E., New Britain.	Ashendon, H. H., Waterbury.
Angell, M., Putnam, Box 398.	

- Ashley, Dr. Dexter D., New York City, 346 Lexington avenue.
- Atwood, E. R., New Hartford, R. F. D.
- Averill, H. O., Washington Depot.
- Bacon, Eben W., Middletown, R. F. D., No. 1.
- Bailey, F. B., Durham.
- Bailey, Mrs. F. B., Durham.
- Barker, C. A., Westville, R. F. D.
- Barker, J. Harry, Branford.
- Barrows, William, New Haven, Admiral street.
- Bartlett, F. A., Stamford.
- Baldwin, Walter H., Cheshire.
- Barber, Henry A., Danbury.
- Barber, Joseph, Rockville, R. D.
- Barber, Mrs. Joseph, Rockville.
- Bard, J. Sprague, Brooklyn.
- Barnes, J. Norris, Yalesville.
- Barnes, John R., Yalesville.
- Barton, Richard, Thompson.
- Baskerville, Granville R., Stepney Depot.
- Bassett, George E., Clintonville.
- Baumgardt, H. F., Highwood.
- Beach, A. S., Bridgeport, R. F. D.
- Beach, Chas. L., Storrs.
- Beach, J. H., Branford.
- Beach, Z. P., Wallingford.
- Beaupain, R. T., So. Norwalk, 192 West street.
- Beckwith, G. C., New Hartford, R. F. D.
- Beckwith, W. M., New Hartford, R. F. D.
- Beebe, C. C., Wilbraham, Mass.
- Beers, F. H., Brookfield Centre.
- Beisiegel, Jacob, Woodbridge.
- Benham, Leonard M., Highwood.
- Benham, Wilbur H., Highwood.
- Bent, Dr. E., Braintree, Mass.
- Bernhard, Albert, Meriden.
- Bigelow, E. W., Litchfield.
- Bill, Lodowick, Lyme, R. F. D.
- Bilton, L. W., East Longmeadow, Mass.
- Birdsey, E. T., Rockfall, R. F. D.
- Bishop, Mark, Cheshire.
- Blakeman, J. H. Oronoque.
- Blakeman, Frank E., Oronoque.
- Bliss, Ethelbert, Ludlow, Mass., R. F. D.
- Boardman, F. E., Middletown, R. F. D.
- Bolles, C. P., Wilbraham, Mass.
- Bonner, Chas. W., Rockville.
- Bowker Insecticide Co., 43 Chatham st., Boston, Mass.
- Boynton, C. C., Cheshire.
- Bray, S. W., Milford.
- Brewer, C. S., Hartford.
- Bridge, H. J., Hazardville.
- Brinsmade, W. H., Bridgeport, R. F. D., No. 4.
- Britton, Prof. W. E., Experiment Station, New Haven.
- Brockett, Ernest R., North Haven.
- Brooks, E. D., Glastonbury.
- Brooks, H. R., Glastonbury.
- Brooks, John N., Torrington.
- Brown, G. F., Cannon Station.
- Brown, H. H., Monsey, N. Y.
- Brown, Jas. F., Jr., North Stonington.
- Brown, Stanton F., Poquonock.
- Brown, T. L., Black Hall.
- Browning, F. W., Norwich.
- Brownson, S. B., Shelton.
- Brundage, Chas. H., Danbury.

- Brush, G. M., New Fairfield.  
 Buell, H. B., Eastford.  
 Burnham, C. N., Middlefield.  
 Burr, C. R., Manchester.  
 Burr, W. H., Westport.  
 Burr, Eugene O., Higganum.  
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 Bushnell, J. C., Farmington.  
 Butler, George E., Meriden.  
 Callahan, Thos., New Britain, R. F. D.  
 Camp, David, N., New Britain.  
 Camp, W. H., Waterbury.  
 Candee, Z. H., Sheffield, Mass.  
 Carini, Bartholomew, South Glastonbury.  
 Carpenter, C. W., Munson, Mass.  
 Carrington, L. W., Southington R. D. 2.  
 Cassady, M. J., Oxford.  
 Cass, Chas. F., Waterbury, R. F. D., No. 1.  
 Chamberlain, F. A., Terryville.  
 Cheney, Seth Leslie, So. Manchester.  
 Child, C. H., Woodstock.  
 Christian, W. W., Berlin.  
 Church, H. E., Hartford, 34 Asylum street.  
 Churchill, Fred G., Wethersfield.  
 Churchill, Levi B., Wethersfield.  
 Churchill, Stephen, Wethersfield.  
 Clark, A. L., Waterbury.  
 Clark, Arthur F., Higganum.  
 Clark, Frank T., Beacon Falls.  
 Clark, Geo. T., Beacon Falls.  
 Clark, Merritt M., Brookfield Center.  
 Clark, O. R., Higganum.  
 Clarke, Clifford L., Durham.  
 Clarke, David A., Milford.  
 Clinton, E. B., Clintonville.  
 Clinton, Dr. George P., Experiment Station, New Haven.  
 Clinton, Prof. L. A., Storrs.  
 Coe, Ernest F., Edgewood avenue, New Haven.  
 Coe, W. T., Northford.  
 Coleman, M. L., Seymour.  
 Coleman, M. P., South Coventry.  
 Coles, John E., 109 Warren street, New York City.  
 Colton, F. B., Hartford.  
 Comstock, G. C., Norwalk.  
 Cook, H. B., Georgetown.  
 Cook, S. G., Branford.  
 Cooke, H. G., Branford.  
 Cooke, Marcus E., Wallingford.  
 Cooper, J. M., Wallingford.  
 Cornell, Joseph, Norwalk.  
 Cosgrove, Geo. A., Willington.  
 Craft, Edward E., Glen Cove, L. I., N. Y.  
 Crandall, Mrs. H. L., Farmington.  
 Crosby, George W., New Britain, care Stanley Works.  
 Crowell, David A., Middletown.  
 Curtis, H. B., Cheshire.  
 Curtis, Newton M., Sandy Hook.  
 Curtis, Robert W., Stratford.  
 Darling, Robert, Simsbury.  
 Dart, C. O., Rockville.  
 Davis, C. T., Middletown.  
 Davis, A. B., Rockville.  
 Davis, E., Branford.  
 Davis, Edson G., Torrington.  
 Davis, Henry B., Southbury.  
 Davis, Mrs. A. B., Rockville.  
 Dearden, Greenwood, Tolland.

- Deming, H. P., Robertsville.  
Derudder, Peter, Meriden,  
Eaton avenue.  
Doehr, Fred, Wallingford.  
Dooley, W. J., Kensington.  
Doolittle, Arthur H., Bethany.  
Douglas, Edward C., Middle-  
town.  
Douglass, G. F., Collinsville.  
Drew, G. A., Greenwich.  
Drew, J. E., Hotel Vendome,  
Hartford.  
Driggs, Oliver K., Vernon.  
Duncan, R. R., Wethersfield.  
Dunham, H. C., Middletown.  
Dunham, Wm. N., New Brit-  
ain.  
Dunn, Mrs. R. S., Middletown,  
Box 911.  
Dyer, E. W., Berlin  
Eddy, Frank C., Unionville.  
Eddy, J. C., Simsbury.  
Eddy, John S., Unionville.  
Ellis, S. K., Rockville.  
Ellison, E. W., Willimantic.  
Ellsworth, David J., Windsor.  
Ellsworth, E. J., Ellington, R.  
F. D.  
Elwood, C. F., Greens Farms.  
Elwood, J. F., Bridgeport, Cen-  
ter street.  
Emerson, J. B., New York  
City, 20 E. 30th street.  
Enders, J. O., West Hartford,  
Box 546.  
Ennis, Bertrand O., Highwood.  
Eno, Frank H., Simsbury.  
Evans, Archie J., Hockanum.  
Fagan, Joseph A., Forestville.  
Fairchild, H. L., Bridgeport, R.  
F. D., No. 4.  
Falk, M. N., Bantam.  
Fall, E. B., Middletown.  
Fanton, I. C., Westport.  
Farnham, A. N., Westville.  
Fawthrop, Walter, Cromwell.  
Felber, John J., Rockville.  
Fenn, Benj., Milford.  
Fenn, Dennis, Milford.  
Fenn, Robert M., Middlebury.  
Fenn, Linus T., Hartford.  
Florian, G. W., Thomaston.  
Fonda, Arthur L., Kensington.  
Forbes, John P., West Haven,  
R. D.  
Forbes, J. S., Burnside.  
Foster, Sylvester M., Westport.  
Francis, D. G., Rockville, 42  
Talcott ave.  
Francis, Judson E., Durham  
Center.  
Francis, Mrs. G. J., Middlefield.  
French, W. H., Wolcott.  
Frost, E. H., Bethlehem.  
Frost, Frank M., Yalesville.  
Frost, Fremont, Hartford.  
Frost, H. L., Arlington, Mass.  
Frost, Willis E., Bridgewater.  
Fuller, Wm. H., West Hart-  
ford.  
Fullerton, H. B., Huntington,  
L. I., N. Y.  
Gager, John M., Willimantic.  
Gardner, A. H., Meriden.  
Gardner, R. H., Cromwell.  
Gaylord, E. W., Bristol.  
Geer, W. H., Yantic, R. F. D.  
No. 1.  
Gehring, Fred, Rockville.  
Gelston, J. B., East Haddam.  
Gilbert, Henry, Middletown.  
Gilbert, Lyman R., Gilead.  
Gilbert, Mrs. Orrin, Middle-  
town.  
Gilbert, Thomas, Middletown.  
Godfrey, E. S., Jr., Storrs.  
Gotta, John, Portland.  
Goulds Mfg. Co., The Seneca  
Falls, N. Y.  
Gowdy, R. W., Thompsonville.



- Grasselli Chemical Co., The  
New York, 60 Wall street.
- Gray, Chas. A., Norwich, R. F.  
D. 1
- Gray, F. W., Waterbury.
- Greene, A. F., Woodbury, R.  
F. D.
- Griffith, Geo. H., Bristol.
- Griswold, H. O., West Hart-  
ford.
- Griswold, J. B., Newington.
- Griswold, R. S., Wethersfield.
- Griswold, S. P., West Hartford.
- Griswold, Thomas & Co.,  
South Wethersfield.
- Griswold, W. F., Rocky Hill.
- Gulley & Bonner, Rockville.
- Haas, G. H., Madison, Wis.
- Hale, George, Westport.
- Hale, G. H., South Glastonbury.
- Hale, J. H., South Glastonbury.
- Hale, Stancliff, South Glaston-  
bury
- Hale, Mrs. Stancliff, South  
Glastonbury.
- Haley, E., Mystic, R. F. D.
- Hall, Geo. B., Moodus.
- Hall, G. D., Wallingford.
- Hall, G. H., Manchester.
- Hall, Wilbur H., Wallingford.
- Hanford, Mrs. C. O., Berlin.
- Hammer, V. T., Branford.
- Hammond, Joseph, Jr., Rock-  
ville.
- Harrison, Orlando, Berlin, Md.
- Hart, E. S., New Britain.
- Hart, E. W., Forestville.
- Hart, S. A., Kensington.
- Hart, Mrs. S. A., Kensington.
- Hawley, E. J., Bridgeport, 27  
Hough avenue.
- Hayes, S. W., Hartford, Box  
335.
- Hemingway's London Purple  
Co., New York, 133 Front  
street.
- Henry, A. T., Wallingford.
- Higgins, Wm. L., M.D., South  
Coventry.
- Hilliard, H. J., Sound View.
- Hillyer, Appleton R., 91 Elm  
street, Hartford.
- Hillyer, Prof. H. W., Farming-  
ton.
- Hines, John T., Farmington.
- Hitchcock, A. L., Plainville.
- Hixon, Adin A., Worcester,  
Mass.
- Hofmeister, August F., High-  
wood.
- Hollister, Geo. H., Keeny Park,  
Hartford.
- Holman, F. W., New York, 24  
Stone.
- Hopson, G. A., Wallingford.
- Hotchkiss, Chas. M., Cheshire.
- Hotchkiss, William, Bristol.
- Hough, E. J., Wallingford, R.  
F. D.
- Hough, George E., Wallingford,  
R. F. D.
- Hough, Joel R., Wallingford.
- Houston, J. R., Mansfield Depot.
- Howard, A. B. & Son, Belcher-  
town, Mass.
- Hoyt, Stephen, New Canaan.
- Hubbard, Clement S., Higgan-  
um.
- Hubbard, Elmer S., Middle-  
town.
- Hubbard, John B., Guilford.
- Hubbard, Paul M., Bristol.
- Hubbard, Robert, Middletown.
- Hull, James, Durham.
- Hull, G. W., Bristol.
- Hulme, Chas. S., Thomaston.
- Hungerford, Newman, Torrington,  
R. D. 2.

- Hunt, W. W., Hartford.  
 Huntington, Chas., Windsor.  
 Hurlburt, H. A., Norwalk, R. F. D. 42.  
 Hutchinson, M. F., South Manchester.  
 Innis, A. C., Ridgefield.  
 Ives, E. M., Meriden.  
 Ives, Mrs. E. M., Meriden.  
 Ives, Miss Florence C., Meriden.  
 Ives, Julius I., South Meriden.  
 Jackson, Elmer, Wilton.  
 Jackson, J. C., Norwalk, R. F. D., No. 42.  
 Jacobs, Arthur C., Mansfield Center.  
 Jarvis, C. D., Storrs.  
 Jenkins, Dr. E. H., Experiment Station, New Haven.  
 Jennings, W. S., Fairfield, R. F. D. 9.  
 Jennison, E. F., Hartford.  
 Jerome, F. M., New Britain.  
 Jewell, Harvey, Cromwell.  
 Jewell, Mrs. Harvey, Cromwell.  
 Jillson, L. W., Greenwich.  
 Johnson, C. B., Southbury.  
 Johnson, Dr. F. E., Mansfield Depot.  
 Jones, A. M., Ludlow, Mass.  
 Jones, E. A., New Canaan.  
 Kelley, Edward, New Canaan.  
 Kelley, W. J., New Canaan.  
 Kellogg, Geo. A., West Hartford.  
 Kelsey, Davis S., West Hartford.  
 Kelsey, Frederick, Higganum.  
 Kelsey, James H., Meriden.  
 Kendall, James H., Auburndale, Mass.  
 Kenney, J. P., Hockanum.  
 Kilduff, P. J., Bristol, R. F. D. Kingsbury, Addison, South Coventry.  
 Kingsbury, Andrew, Rockville, R. F. D. No. 2.  
 Kingsbury, John E., Rockville.  
 King, Horace, Thompsonville.  
 King, Mrs. N. N., Suffield, R. F. D.  
 Kirkham, John S., Newington.  
 Knapp, Geo. S., Groton, Mass.  
 Knapp, M. C., Danbury.  
 Knowles, Wm. A., Middletown.  
 Knoxhall, J., Hockanum.  
 LaField, J. Howard, Plainville.  
 Lane, Willis A., New Britain.  
 Lapsley, Arthur B., Pomfret Center.  
 Lee, Wilson H., Orange.  
 Lewis, Fred J., Highwood.  
 Lindabery, H. R. & Son, Frenchtown, N. J.  
 Lindsley, H. G., Branford.  
 Linsley, C. H., West Haven.  
 Loomis, Chas. N., Bolton.  
 Loomis, John, South Manchester.  
 Loverin, D. P., Huntington.  
 Lowrey L. L., Bristol.  
 Ludlum, H. A., Wolcott.  
 Lyman, C. E., Middlefield.  
 Lynch, Thos. F., Meriden, 36 Lewis avenue.  
 Lynch, Wallace, Brooklyn, N. Y., 591 St. Mark's ave.  
 Lyman, Henry H., Middlefield.  
 Main, C. R., Poquetanuck.  
 Mallon, James, Rockville, 8 Spruce street.  
 Manchester, E., Bristol.  
 Manchester, George C., Bristol.  
 Mansfield, David B., Campville.  
 Mansfield, K. W., Norwalk.

- Mansfield, Peter, West Hartford.  
 Martin, J. A., Wallingford.  
 Martin, W. B., Rockville.  
 Martin, W. B., Rockville.  
 Maxwell, W., Rockville.  
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 McKay, W. L., Geneva, N. Y.  
 McLean, John B., Simsbury.  
 McLean, S. G., South Glastonbury.  
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 Merriman, E. D., South Coventry.  
 Merriman, J. H., Southington.  
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 Miller, E. Cyrus, Haydenville, Mass.  
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 Molumphy, J. T., Berlin.  
 Montague, H. E., 109 Warren street, New York City.  
 Moore, E. A., New Britain.  
 Mortimer, Edmund, Grafton, Mass.  
 Morgan, S. W., Wethersfield.  
 Morton, E. G., Broad Brook, R. D.  
 Morris, Chas. G., New Haven, Box 1352.  
 Morris, F. S., Wethersfield.  
 Morse, C. Z., Shelton.  
 Moses, A. A., Unionville.  
 Mosley, A. W., Glastonbury.  
 Mowry, Albert J., Centerdale, R. I.  
 Moss, J. W., West Cheshire.  
 Moxon, J. R., New York City, 60 Wall street.  
 Munson, Rev. Myron A., 150 Jefferson street, Hartford.  
 Munson, W. M., Huntington, Mass.  
 Munson, R. A., Highwood, Station 4.  
 Nettleton, H. I., Durham.  
 Newhauser, R. F., Farmington.  
 Newton, Robertson & Co., Hartford.  
 Noble, H. C., New Britain.  
 Olcott, W. H., South Manchester.  
 Olds Gas Power Co., Boston, Mass.  
 Ott, Fred, Cheshire, R. F. D.  
 Paddock, J. H., Wallingford, East Main street.  
 Page, B. F., Northford, R. F. D.  
 Palmer, Selah, Portchester, N. Y.  
 Pardee, G. F., Cheshire.  
 Parker, G. A., Hartford.  
 Parker, John B., Jr., Poquonock.  
 Parks, S. J., Trumbull.  
 Patch, A., Warren, Boston, Mass.  
 Patten, D. W., Clintonville.  
 Patterson, B. C., Torrington.  
 Pauley, Geo. A., New Canaan.  
 Payne, Frank C., Portland.  
 Payne, Lyman, Portland.  
 Pease, C. T., Ellington.  
 Peasley, Fredk. M., Waterbury.  
 Peck, Henry B., Northfield.  
 Penny, James K., Danbury.  
 Perley, G. P., Woodstock.

- Pero, Louis, South Glastonbury.
- Perry Chas. M., Southbury.
- Peters, Henry D., Highwood.
- Peters, Wm. T., Cheshire.
- Phelan, Franklin V., Vernon.
- Phelps, A. H., Clinton.
- Phelps, Chas. S., Canaan.
- Phelps, E. J., Enfield.
- Phelps, Mrs. E. J. Enfield.
- Phelps, G N., East Haddam.
- Philips, Alan, Farmington.
- Pierce, Mrs. I. E., Bristol.
- Pierpont, A. B., Waterbury.
- Pierpont, A. J., Waterbury.
- Pierpont, W. L., Waterbury.
- Pitkin, A. L., Talcottville.
- Plant, A. B., Branford.
- Plant, Albert E., Branford.
- Platt, Frank N., Milford.
- Platt, Frank S., The, Co., New Haven.
- Platt, G. F., Milford.
- Platt, N. S., 395 Whalley avenue, New Haven.
- Platt, William F., Milford.
- Plump, Chas. H., Georgetown, R. F. D. 40.
- Pomeroy, E., Windsor.
- Porter, Marshall, Hebron.
- Potter, H. F., North Haven.
- Powell, E. C., Springfield, Mass.
- Pratt, B. G., 50 Church street, New York.
- Price, Walter E., Warehouse Point.
- Pring, Geo. H., Wallingford.
- Pring, Thos. J., Wallingford.
- Putnam, J. H., Litchfield.
- Race, R. H., North Egremont, Mass.
- Reed, Horace B., Greenwich.
- Rengerman, Wm., East Granby.
- Reynolds, C. C., Slocum, R. I.
- Rice, J. L., Ludlow, Mass., R. F. D.
- Rice, J. W., Wilbraham, Mass.
- Rice, L. W., Wilbraham, Mass.
- Richardson, J. H., Thornton, R. I., R. F. D.
- Ripley, Louis A., Litchfield.
- Risley, Chas. R., Silver Lane.
- Roberts, Earl C., Middletown, R. F. D. No. 2.
- Roberts, E. J., Middletown.
- Roberts, Silas W., Middletown, R. F. D. No. 2.
- Robertson, L. J., Manchester Green.
- Robertson, Ole W., Forestville.
- Rockwell, F. P., East Windsor Hill.
- Rogers, F. D., Monson, Mass.
- Rogers, Geo. H., Cheshire.
- Rogers, James Simsbury.
- Rooke, J. R., Bloomfield.
- Rose, J. G., Litchfield.
- Root, L. C., Farmington.
- Root, T. H., Farmington.
- Rowe, J. G., Wethersfield.
- Russell, S., Jr., Middletown.
- Sanderson, Lucien, New Haven.
- Savage Clarence H., Storrs.
- Savage, Willis I., Berlin.
- Schlosser, Dr. R. O., Collinsville, R. F. D. No. 45.
- Schmitz, Eugene, Greenwich.
- Schmidt, E., New Canaan.
- Schultz, C. H., Hartford.
- Schultz, W. F. & Co., Hartford.
- Schwink, J. G., Jr., Meriden.
- Segur, Dr. G. C., Hartofrd.

- Seward, Arthur I., Durham Center.
- Seymour, Fred R., West Hartford.
- Shedd, G. V., Preston.
- Shepard, S. A., Hartford.
- Shepardson, W. M., Middlebury.
- Sherwood, N. H., Southport.
- Silliman, J. F., New Canaan.
- Simpson, W. A., Wallingford.
- Sinclair, Alex., Stepney Depot.
- Sisson Drug Co., Hartford.
- Skinner, M. G., Higganum.
- Slater, Geo. B., Manchester.
- Slater, Geo. H., Glastonbury, R. F. D.
- Smart, Geo. W., Silver Lane.
- Smith, Fred A., Ipswich, Mass.
- Smith, E. W., Cheshire.
- Smith, Geo. V., New Haven, 847 Chapel street.
- Smith, G. W., Hartford, Box 38.
- Smith, J. Eliot, Wolfville, Nova Scotia.
- Smith, J. H., Hartford, 249 Fairfield avenue.
- Smith, Dr. L. A., Higganum.
- Smith, M. B., Hartford, 288 Asylum street.
- Soby, Charles, Hartford, 855 Main street.
- Spence, Geo. E., Cheshire.
- Spicer, G. W., Deep River.
- Stack, G. M., New Milford.
- Staples, G. W., Hartford.
- Steere, Enoch M., Chepachet, R. I.
- Steere, Sayles B., Chepachet, R. I.
- Sterling, S. P., Lyme, R. F. D.
- Stevens, A. T., Storrs.
- Stevens, C. T., North Haven, R. D.
- Stevens, H. C., East Canaan.
- St. John, D. A., New Canaan.
- Stocking, W. A. & Son, Weatogue.
- Stocking, Wilbur F., Milford.
- Stockwell, S. T., West Simsbury.
- Stoddard, E. M., New Haven, Experiment Station.
- Stoughton, Lemuel, Warehouse Point.
- Strumpf, George, Burnside.
- Surface, Prof. H. A., Harrisburg, Pa.
- Taber, F. J., South Windham.
- Tanner, Walter C., Volun- town.
- Taylor, Edward J., Southport.
- Taylor, J. M., Kensington.
- Teachman, F. B., Farmington.
- Terrell, C. L., Cheshire.
- Terry, F. E., Forestville.
- Terry, James, Hartford, 78 Wethersfield avenue.
- The Vreeland Chemical Co., Little Falls, N. J.
- Thompson, Chas. A., Melrose.
- Thompson, Chas. B., Moodus.
- Thompson, Wm. H., East Haddam.
- Tillinghast, G. G., Vernon.
- Tillinghast, W. E., Vernon.
- The Winant Cooperage Co., New York City, 90 West street.
- The Sherwin-Williams Co., Newark, N. J., Brown st. and Lister ave.
- Titus, Ellwood V., Glen Cove, L. I., N. Y.
- Todd, E. A., Waterbury, R. F. D.

- Toth, A. M., Wallingford, R. D. 2.
- Tracy, John C., Jr., Yantic, R. F. D. 2.
- Tracy, M. E., Orange.
- Trask, Abner, Silver Lane.
- Trischman, G. W., Middlefield.
- Tucker, F. E., Vernon.
- Turney, Oliver, Fairfield.
- Tuttle, A. N., Warren, Mass.
- Tuttle, S. L., Wallingford.
- Underwood, R. F., Mount Tom, Mass.
- Usher, R. C., Plainville.
- Viets, R. B., New Britain.
- Vine Hill Farm, Elmwood.
- Wakeman, H. S., Saugatuck.
- Wakeman, J. S., Saugatuck.
- Wakeman, S. B., Saugatuck.
- Walden, B. H., Experiment Station, New Haven.
- Waldo, Harold B., Naubuc.
- Walker, Chas. P., New Haven, Box 613.
- Walker, C. T., 90 Commercial Wharf, Boston.
- Walker, Howard A., West Hartford.
- Wallace, E. J., Wallingford, West Quinmpiac street.
- Waller, W. E., R. D., Chestnut Hill, Bridgeport.
- Wiard, F. S., Yalesville.
- Warncke, Louis H., Cannon Station.
- Warner, E. C., Clintonville.
- Warner, W. V., Waterbury, R. F. D. No. 4.
- Watrous, J. L., Meriden.
- Weed, T. L., New Britain.
- Welch, G. H., Torrington.
- Wells, Dudley, 2d, Wethersfield.
- Welton, Ard, Terryville.
- Wheeler, Chas. A., Storrs.
- Wheeler, Wilfrid, Concord, Mass.
- Whittaker, E. J., Springfield, Mass, care H. J. Perkins Co.
- Whitten, Geo. T., Hartford, 1100 Albany avenue.
- Wiggin, Mrs. C. D., Providence, R. I., 40 Princeton avenue.
- Wilcox, R. C. & Sons, Guilford.
- Wiley, Clarence H., Hartford, 122 Collins street.
- Willard, S. F., Wethersfield.
- Williams, A. W., New Britain.
- Williams, F. B., Naugatuck.
- Williams, Miss L. S., Hartford, 1492 Broad street.
- Winsor, Thos. K., Greenville, R. I.
- Wolcott, R. R., Wethersfield.
- Wood, G. P., Ellington.
- Wood, O. S., Ellington.
- Woodruff, C. V., Orange.
- Woodruff, R. H., Guilford.
- Wooster, R. H., Southbury, R. F. D. No. 2.
- Wooster, W. A., New Britain, 118 Camp street.
- Wright, W. O., Clinton.
- Young, C. O., Yalesville.











